

<211> 2511
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 262

```
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac    60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc    120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac    180
gggtacaagg ccgtcttcgt ggtctttgac gccaaagccc cctccttcct ccacgaggcc    240
tacgaggcct acaaggcggg gagggccccc acccccagagg acttcccccc gcagctcgcc    300
ctcatcaagg agctggtgga cctcctgggg ttaccgccg tctgaggctcc cggctacgag    360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc    420
atcctcaccg ccgaccgcga cctctaccaa ctctctccg accgcgtcgc cgtcctccac    480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag    540
cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag    600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc    660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg    720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg    780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg    840
gagttcgga geectctcca cgagttcggc ctcttgagg ccccccgcct cctggaggag    900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc    960
atgtgggcgg agcttaaagc cctggccgcc tgcagggacg gccgggtgca ccgggcagca   1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc   1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccc gggacgacct catgctcctc   1140
gcctacctcc tggacctctc caacaccacc cccgaggggg tggcgcggcg ctacgggggg   1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcctg agaggctcca tcggaacctc   1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc   1320
ctctcccggg tcctggccca catggaggcc accggggtac ggcgggacgt ggcctacctt   1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc   1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac   1500
```

gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccccctcc caagcctcgt ccacccgagg 1680
acggggccgccc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccccct tgggcccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt ccacaacgag ctctcctcgtg agggccccca agcgcgggcc 2400
gaggaggtgg cggttttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtta g 2511

<210> 263
<211> 50
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 263
tctagaggat ctatcagtgg tgggtggtggt ggtgctcctt ggcggagagc 50

<210> 264
<211> 58
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 264

tgccctgcagg tcgacgctag ctagtggtgg tgggtggtggt gacccttggc ggaaagcc 58

<210> 265

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 265

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120

ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180

gacgcggtga tcgtggtcct tgacgccaag gcccctcct tccgccacga ggcctacggg 240

gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300

aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480

gggtacctca tcacccgggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540

gccgactacc gggccctgac cggggacgag tccgacaacc tcccgggggt caagggcac 600

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660

aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720

aagctctcct gggacctggc caaggtgcgc accgacctgc ccttgagggt ggacttcgcc 780

aaaaggcggg agcccgaccg ggagaggcct agggcctttc tggagaggct tgagtttggc 840

agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900

cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960

gatcttctgg ccctggccgc cgccaggggg ggccgggtcc accgggcccc cgagccttat 1020

aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080

gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140

ctggaccctt ccaacaccac ccccgagggg gtggcccgcc gctacggcgg ggagtggacg 1200

gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260

cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320

gtcctggccc acatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380

tccctggagg tggccgagga gatcgcccg ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctctg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcgcctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 266
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 266

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe

35					40					45					
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
50					55						60				
Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75					80
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
				85					90					95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Leu	Ala	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
	130					135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145					150					155					160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
			165						170					175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp
			180					185					190		
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu
		195					200					205			
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
	210					215					220				
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
225					230					235					240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu
			245						250					255	
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala
			260					265					270		
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu
		275					280					285			
Leu	Glu	Ser	Pro	Lys	Ala	Leu	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu
	290					295					300				
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala
305					310					315					320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala
			325						330					335	
Pro	Glu	Pro	Tyr	Lys	Ala	Leu	Arg	Asp	Leu	Lys	Glu	Ala	Arg	Gly	Leu

340					345					350						
Leu	Ala	Lys	Asp	Leu	Ser	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Gly	Leu	
355					360					365						
Pro	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser	
370					375					380						
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr	
385					390					395					400	
Glu	Glu	Ala	Gly	Glu	Arg	Ala	Ala	Leu	Ser	Glu	Arg	Leu	Phe	Ala	Asn	
405					410					415						
Leu	Trp	Gly	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg	
420					425					430						
Glu	Val	Glu	Arg	Pro	Leu	Ser	Ala	Val	Leu	Ala	His	Met	Glu	Ala	Thr	
435					440					445						
Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Ser	Leu	Glu	Val	
450					455					460						
Ala	Glu	Glu	Ile	Ala	Arg	Leu	Glu	Ala	Glu	Val	Phe	Arg	Leu	Ala	Gly	
465					470					475					480	
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe	
485					490					495						
Asp	Glu	Leu	Gly	Leu	Pro	Ala	Ile	Gly	Lys	Thr	Glu	Lys	Thr	Gly	Lys	
500					505					510						
Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro	
515					520					525						
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser	
530					535					540						
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg	
545					550					555					560	
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser	
565					570					575						
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly	
580					585					590						
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val	
595					600					605						
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser	
610					615					620						
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His	
625					630					635					640	
Thr	Glu	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Arg	Glu	Ala	Val	Asp	

645					650					655					
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Ile	Asn	Phe	Gly	Val	Leu	Tyr
			660					665					670		
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu
		675					680					685			
Glu	Ala	Gln	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val
	690					695					700				
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Arg	Arg	Gly	Tyr
705					710					715					720
Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Glu	Ala
				725					730					735	
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met
			740					745					750		
Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val	Lys
		755					760					765			
Leu	Phe	Pro	Arg	Leu	Glu	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val
	770					775					780				
His	Asn	Glu	Leu	Val	Leu	Glu	Ala	Pro	Lys	Glu	Arg	Ala	Glu	Ala	Val
785					790					795					800
Ala	Arg	Leu	Ala	Lys	Glu	Val	Met	Glu	Gly	Val	Tyr	Pro	Leu	Ala	Val
				805					810					815	
Pro	Leu	Glu	Val	Glu	Val	Gly	Ile	Gly	Glu	Asp	Trp	Leu	Ser	Ala	Lys
		820						825					830		
Glu	His	His	His	His	His	His	His								
		835													

<210> 267
 <211> 2526
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 267
 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
 gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcg ccacgaggcc 240
 tacgaggcct acaaggcggg gagggccccc acccccagagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgcgc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggagc gccgggtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgaccc catgctctc 1140
gcctacctcc tggaccttc caacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca catggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaagggt gctctttgac 1500
gagcttaggc ttcccgcctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccttacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggccgcc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040

aggtctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgcacct caacgcccgg 2220
 gtgaagagcg tcagggaggg cgcgagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt ccacaacgag ctctccttgg agggccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
 caccac 2526

<210> 268
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 268

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140

Asp	Arg	Asp	Leu	Tyr	Gln	Leu	Val	Ser	Asp	Arg	Val	Ala	Val	Leu	His	145	150	155	160
Pro	Glu	Gly	His	Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	165	170		175
Leu	Arg	Pro	Glu	Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro	180	185		190
Ser	Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu	195	200		205
Lys	Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu	210	215		220
Asp	Arg	Val	Lys	Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu	225	230		235
Glu	Asp	Leu	Arg	Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	Arg	Thr	Asp	Leu	245	250		255
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly	260	265		270
Leu	Arg	Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	275	280		285
Phe	Gly	Leu	Leu	Glu	Ala	Pro	Ala	Pro	Leu	Glu	Glu	Ala	Pro	Trp	Pro	290	295		300
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Pro	Glu	Pro	305	310		315
Met	Trp	Ala	Glu	Leu	Lys	Ala	Leu	Ala	Ala	Cys	Arg	Asp	Gly	Arg	Val	325	330		335
His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val	340	345		350
Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly	355	360		365
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	370	375		380
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	385	390		395
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	405	410		415
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp	420	425		430
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	435	440		445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 269
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 269
gccgccaggg gcggccgcgt ccaccggggc

30

<210> 270
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 270
gcctgcaggg gcggccgcgt gcaccggggc a

31

<210> 271
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 271
ctcctggacc cttcgaacac cacc

26

<210> 272
<211> 23
<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 272

gtcctggccc atatggaggc cac

23

<210> 273

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 273

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240

tacgaggcct acaaggcggg gagggccccc acccccaggg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg ttaccgccg tccaggtccc cggctacgag 360

gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420

atcctcaccg ccgaccgcca cctctaccaa ctcgctcccg accgcgtcgc cgtcctccac 480

cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540

cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtaag 600

ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660

ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720

gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780

gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca gcctcctcca cgagttcggc ctccctggagg ccccgcccc cctggaggag 900

gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960

atgtgggcgg agcttaaagc cctggccgcc tgcagggggc gccgcgtgca ccgggcagca 1020

gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080

gccgtcttgg cctcgaggga ggggctagac ctcggtcccc gggacgaccc catgctcctc 1140

gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200

gagtggacgg aggacgccgc ccaccggggcc ctctctctcg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcgaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacaccgc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgcgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggagggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt ccacaacgag ctctcctgg agggcccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccct cgcctgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 274
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 274

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val His Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 275

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 275

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc

60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caaggggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggcccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaartc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca cccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttg ccggacctca tccacccag gacgggcccgc 1680
ctccacacce gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800

gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
 gcccacctct ccggcgacga gaacctgate cgggtcttcc aggaggggag ggacatccac 1920
 acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgagc 1980
 cgggcggcca agaccatcaa cttcgggggtc ctctacggca tgtcggccca ccgcctctcc 2040
 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccaggggcac cgccgcccac 2280
 ctcataagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctcttcagg tccacaacga gctggtcctc gaggcccaaa aagagagggc ggaggccgtg 2400
 gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
 gaggtgggga taggggagga ctggctctcc gcccaaggagc accaccacca ccaccac 2517

<210> 276
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 276

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75				80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
				85					90					95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Leu	Ala	Arg	Leu
			100					105					110		

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225 230 235 240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
245 250 255

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
260 265 270

Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
275 280 285

Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
290 295 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
305 310 315 320

Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
325 330 335

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
340 345 350

Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
355 360 365

Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
370 375 380

Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
385 390 395 400

Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
405 410 415

Leu Trp Gly Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 277
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 277
gaggaggcgg ggcaccgggc cgccctt

27

<210> 278
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 278
ctttccgaga ggctccatcg gaacctgtgg gggagg

36

<210> 279
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 279

ctcttcgcca acctgcttaa gaggttgag ggggag

36

<210> 280

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 280

aggcccccttt cccgggtcct ggcccat

27

<210> 281

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 281

acgggggtgc gccgggacgt ggcctat

27

<210> 282

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 282

gtggcctatc tccaggcctt gtcctg

27

<210> 283

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 283

ttgtccctgg agcttgccga ggagatc

27

<210> 284

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 284

gccgaggaga tccgccgcct cgaggcc

27

<210> 285

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 285

gcccgcctcg aggaggaggt cttccgc

27

<210> 286

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 286

tttgacgagc taaggcttcc cgccatc

27

<210> 287

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 287

atcgccaaga cgcaaaagac cggcaag

27

<210> 288

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 288

aagatcctgc agcaccggga gctcacc

27

<210> 289

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 289

accaagctga agaacaccta cattgac

27

<210> 290

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 290

aagagcacct acgtggaccc cttgccg

27

<210> 291

<211> 39

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 291

attgaccct tgccgagcct cgtccacccc aggacgggc

39

<210> 292

<211> 33

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 292

ttcgccaacc tgcttgggag gcttgagggg gag

33

<210> 293

<211> 33

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 293

ctcttcgcca acctgtggaa gaggcttgag ggg

33

<210> 294
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 294
gcttgcggtc tgggtggcga tgccttccc etc

33

<210> 295
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 295
catgttgaag gccatggcct ccgcggcctc cct

33

<210> 296
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 296
caggaggagc tcgttggcga cctggaggag

30

<210> 297
<211> 45
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 297
ggagcgcttg cctgtcttct tcgtcttctt caaggcggga ggcct

45

<210> 298
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 298

gaggaccagc tcgttggcga cctgaaggag cat

33

<210> 299
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 299
gaggggcggg acatcgccac ggagaccgcc agc

33

<210> 300
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 300
cagaacatcc ccgtcgccac cccgcttggg cag

33

<210> 301
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 301
gggcttcccg ccatcaagaa gacggagaag acc

33

<210> 302
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 302
ctagggcttc ccgcatcaa gaagacgcaa aagaccggc

39

<210> 303
<211> 39
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 303

ccgggggaaag tcctcctccg tctcgggcccg gcccgccctt

39

<210> 304

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 304

cgggacctcg aggcgcgtga accccaggag gtccac

36

<210> 305

<211> 18

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 305

ctcctccacg agttcggc

18

<210> 306

<211> 48

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 306

accggtcttc ttcgtcttct tcaacttggg aagcctgagc tcgtcaaa

48

<210> 307

<211> 33

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 307

aagacgaaga agaccggtaa gcgctccacc agc

33

<210> 308

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 308

gtcgactcta gatcagtggt ggtgggtggtg gtgcttggcc gcccggcgca tc

52

<210> 309

<211> 60

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> modified_base

<222> (19)..(42)

<223> The bases in these positions within tH primer are 91% of the base shown and 3% each of the other 3 nucleotides

<400> 309

ggagcgctta ccggtctttt gcgtcttctt gatcttggga agccttagct cgtcaaagag

60

<210> 310

<211> 18

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 310

ctcctccacg agttcggc

18

<210> 311

<211> 60

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> modified_base

<222> (19)..(42)

<223> The bases at these positions within tH primer are 91% of the base shown and 3% each of the other 3 nucleotides.

<400> 311

caaaagaccg gtaagcgctc caccagcgcc gccgtcctgg aggccctccg cgaggcccac

60

<210> 312
<211> 52
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 312
gtcgactcta gatcagtggt ggtggtggtg gtgcttggcc gcccggcgca tc 52

<210> 313
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 313
gtcggagggg tccccacga g 21

<210> 314
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 314
tgtggaattg tgagcgg 17

<210> 315
<211> 75
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (28)..(59)
<223> The bases in these positions within tH primer are 91% of the base shown and 3% each of the other 3 nucleotides.

<400> 315
ctcgtggggg acccctccga caacctcccc ggggtcaagg gcatcgggga gaagaccgcc 60
ctcaagcttc tcaag 75

<210> 316
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 316
gtggcctcca tatgggccag gac

23

<210> 317
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 317
cgggacctcg aggcgcgtga accccaggag gtccac

36

<210> 318
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 318
ccggggaaag tcctcctccg tctcggcccg gcccgctt

39

<210> 319
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 319
gtcggactcg tcaccggtca gggc

24

<210> 320
<211> 75
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (28)..(60)
<223> The bases in these positions within tH primer are 91% of the base
shown and 3% each of the other 3 nucleotides.

<400> 320
ctgaccggtg acgagtccga caaccttccc ggggtcaagg gcatcgggga gaggacggcg 60
aggaagcttc tggag 75

<210> 321
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 321
tagctcctgg gagagggcgt gggccgacat gcc 33

<210> 322
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 322
cttccagaac ctcttttaaac ggctttccga gaag 34

<210> 323
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 323
cttctcggaa agccgtttaa agaggttctg gaag 34

<210> 324
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 324
ccggtgggcc ggacgcagaa gacgggcaag c 31

<210> 325
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 325
gcttgcccgt cttctgcgtc cggcccaccg g 31

<210> 326
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 326
ctcctccaag tgcacaacga gctggtcctg g 31

<210> 327
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 327
ccaggaccag ctcgttgtgc acttggagga g 31

<210> 328
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 328
gccgccctcc tgaagcggct taaggg 26

<210> 329
<211> 26
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 329

cccttaagcc gcttcaggag ggcggc

26

<210> 330

<211> 28

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 330

atcggcaaga cgcagaagac gggcaagc

28

<210> 331

<211> 28

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 331

gcttgcccgct cttctgcgctc ttgccgat

28

<210> 332

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 332

ttgcaggtgc acaacgaact ggtcctc

27

<210> 333

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 333

gaggaccagt tcgttggtgca cctgcaa

27

<210> 334

<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 334
cagaccatga attccacccc acttttttgac ctggag

36

<210> 335
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 335
gtggacgcgg ccgcccagg ccgcccag ggccag

36

<210> 336
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 336
cagaccatga attccctgcc cctctttgag cccaag

36

<210> 337
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 337
gtaaaccgcg ccgccccagg cggcggccaa ggcgtt

36

<210> 338
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 338
gaggtggagc ggcccctctc ccgggtcttg

30

<210> 339
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 339
caagaccgag gagaggggccc gctccacctc

30

<210> 340
<211> 2505
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 340
atggaattca cccactttt tgacctggag gaacccccca agcgggtgct tctgggtggac 60
ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccgggggggag 120
ccggtgcaga tgggtctacgg ctctgcccgg agcctcctca aggccttgaa ggaggacgga 180
caggcggtgg tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cggggccgggc cccacccccg gaggacttcc cccgccagct cgccttggtc 300
aagcggctgg tggaccttct gggcctgggc cgcctcgagg ccccggggta cgaggcggac 360
gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcctcctc 420
acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480
gggaccctgg tcacccccaa ggacgtccag gagaagtacg ggggtgcccc ggagcgctgg 540
gtggacttcc gcgcctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600
ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660
aacctggacc gggcacaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720
ctccacctct ccttagacct ggcccgcctc cgcaccgacc tccccctgga ggtggacttt 780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840
gagttcgga gcctcctcca cgagttcggc ctctggggag gggagaagcc ccgggaggag 900
gccccctggc ccccgcccca aggggccttc gtgggcttcc tcctttcccg caaggagccc 960
atgtgggagg agcttctggc cctggcgagg gcctcgagg gccgggtcca ccgggcaaca 1020

agccccggttg aggccctggc cgacctcaag gagggcccggg ggttcctggc caaggacctg 1080
gccgttttgg ccctgcggga gggggtggcc ctggacccca cggacgaccc cctcctggtg 1140
gcctacctcc tggacccggc caacacccac cccgagggggg tggcccggcg ctacggggggc 1200
gagttcacgg aggacgcagc ggagagggcc ctctctctcg agaggctctt ccagaacctc 1260
tttaaacggc tttccgagaa gctcctctgg ctctaccagg aggtggagcg gcccctctcc 1320
cgggtcttgg cccacatgga ggcccggggg gtgaggctgg acgtccccct tctggaggcc 1380
ctctcctttg agctggagaa ggagatggag cgcctggagg gggaggctct ccgtttggcc 1440
ggccacccct tcaacctcaa ctcccgcgac cagctggaaa gggtcctctt tgacgagctg 1500
ggcctcacc cgggtgggccc gacgcagaag acgggcaagc gctccaccgc ccagggggccc 1560
ctggaggccc tccggggggc ccaccccatc gtggagctca tcctccagta ccgggagctt 1620
tccaagctca aaagcaccta cctggacccc ctgccccggc tcgtccacc gcggacgggc 1680
cggctccaca cccgcttcaa ccagacggcc acggccacgg gaaggctttc cagctccgac 1740
cccaacctgc agaacatccc cgtgcgcacc cccttggggc agcgcacccg caaggccttc 1800
gtggccgagg aggggtggct ccttttggcg gcggactact ccagattga gctccgggtc 1860
ctggcccacc tctcggggga cgagaacctg aagcgggtct tccgggaggg gaaggacatc 1920
cataccgaga ccgccgcctg gatgttcggc ttagaccccg ctctggtgga tccaaagatg 1980
cgccgggccc ccaagacggt caacttcggc gtcctctacg ggatgtccgc ccacaggctc 2040
tcccaggagc tcggcataga ctacaaggag gcggaggcct ttattgagcg ctacttccag 2100
agcttcccca aggtgcgggc ctggatagaa aggacctgg aggagggccg gacgcggggc 2160
tacgtggaga ccctgttcgg caggaggcgc tatgtgccc acctggcctc ccgggtccgc 2220
tcggtgccgg aggcggcgga gcggatggcc ttcaacatgc ccgtgcaggg caccgcggcc 2280
gacctgatga agatcgccat ggtcaagctc ttccccaggc taaagcccct gggggcccac 2340
ctctcctcc aagtgcacaa cgagctggtc ctggagggtg ccgaggaccg ggccgaggag 2400
gccaaggccc tggtaagga ggtcatggag aacgcctacc ccctggacgt gcccctcgag 2460
gtggagggtg gcgtgggtcg ggactggctg gaggcgaagc aggat 2505

<210> 341
<211> 835
<212> PRT
<213> Artificial

<220>

<223> Synthetic

<400> 341

Met Glu Phe Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
 20 25 30
 Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
 35 40 45
 Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
 65 70 75 80
 Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu
 100 105 110
 Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
 115 120 125
 Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
 130 135 140
 Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
 145 150 155 160
 Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
 165 170 175
 Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
 180 185 190
 Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
 195 200 205
 Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
 225 230 235 240
 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285

Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ser Glu Gly Arg Val
325 330 335

His Arg Ala Thr Ser Pro Val Glu Ala Leu Ala Asp Leu Lys Glu Ala
340 345 350

Arg Gly Phe Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly
355 360 365

Val Ala Leu Asp Pro Thr Asp Asp Pro Leu Leu Val Ala Tyr Leu Leu
370 375 380

Asp Pro Ala Asn Thr His Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Phe Thr Glu Asp Ala Ala Glu Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

Phe Gln Asn Leu Phe Lys Arg Leu Ser Glu Lys Leu Leu Trp Leu Tyr
420 425 430

Gln Glu Val Glu Arg Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
435 440 445

Arg Gly Val Arg Leu Asp Val Pro Leu Leu Glu Ala Leu Ser Phe Glu
450 455 460

Leu Glu Lys Glu Met Glu Arg Leu Glu Gly Glu Val Phe Arg Leu Ala
465 470 475 480

Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
485 490 495

Phe Asp Glu Leu Gly Leu Thr Pro Val Gly Arg Thr Gln Lys Thr Gly
500 505 510

Lys Arg Ser Thr Ala Gln Gly Ala Leu Glu Ala Leu Arg Gly Ala His
515 520 525

Pro Ile Val Glu Leu Ile Leu Gln Tyr Arg Glu Leu Ser Lys Leu Lys
530 535 540

Ser Thr Tyr Leu Asp Pro Leu Pro Arg Leu Val His Pro Arg Thr Gly
545 550 555 560

Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
565 570 575

Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
580 585 590

Gly Gln Arg Ile Arg Lys Ala Phe Val Ala Glu Glu Gly Trp Leu Leu
 595 600 605
 Leu Ala Ala Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
 610 615 620
 Ser Gly Asp Glu Asn Leu Lys Arg Val Phe Arg Glu Gly Lys Asp Ile
 625 630 635 640
 His Thr Glu Thr Ala Ala Trp Met Phe Gly Leu Asp Pro Ala Leu Val
 645 650 655
 Asp Pro Lys Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
 660 665 670
 Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Gly Ile Asp Tyr
 675 680 685
 Lys Glu Ala Glu Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
 690 695 700
 Val Arg Ala Trp Ile Glu Arg Thr Leu Glu Glu Gly Arg Thr Arg Gly
 705 710 715 720
 Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala
 725 730 735
 Ser Arg Val Arg Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
 740 745 750
 Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Ile Ala Met Val
 755 760 765
 Lys Leu Phe Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln
 770 775 780
 Val His Asn Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu
 785 790 795 800
 Ala Lys Ala Leu Val Lys Glu Val Met Glu Asn Ala Tyr Pro Leu Asp
 805 810 815
 Val Pro Leu Glu Val Glu Val Gly Val Gly Arg Asp Trp Leu Glu Ala
 820 825 830
 Lys Gln Asp
 835

<210> 342
 <211> 38
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 342
tggcggcggc ctcgggaggc cgcgtccacc gggcaaca 38

<210> 343
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 343
cttctctcat ccgcaaaaac agcc 24

<210> 344
<211> 38
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 344
tggccgaggc ctggggaggc cgcgtttacc gggcggag 38

<210> 345
<211> 2505
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 345
atgaattcca cccactttt tgacctggag gaacccccca agcgggtgct tctggtggac 60
ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccggggggag 120
ccggtgcaga tgggtctacgg ctteggccgg agcctcctca aggccttgaa ggaggacgga 180
caggcgggtgg tegtgggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cgggaggggc cccacccccg gaggacttcc cccgccagct cgccttggtc 300
aagcggctgg tggaccttct gggcctgggc cgcctcgagg ccccggggta cgaggcggac 360
gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatactc 420
acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480
gggaccctgg tcacccccaa ggacgtccag gagaagtacg gggtgcccc ggagcgctgg 540
gtggacttcc gcgccctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600

ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660
aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720
ctccacctct ccttagacct ggcccgcatc cgcaccgacc tccccctgga ggtggacttt 780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840
gagttcggaa gcctcctcca cgagttcggc ctctggggag gggagaagcc ccgggaggag 900
gccccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960
atgtgggchg agcttctggc cctggcgchg gcctcgggcg gccgcgtcca ccgggcaaca 1020
agcccgggtg aggccctggc cgacctcaag gagggccggg ggttcctggc caaggacctg 1080
gccgttttgg ccctgcggga ggggggtggc ctggacccca cggacgacc cctcctggtg 1140
gcctacctcc tggacccggc caacaccac cccgaggggg tggcccgchg ctacgggggc 1200
gagttcacgg aggacgcagc ggagagggcc ctctctccg agaggctctt ccagaacctc 1260
tttaaacggc tttccgagaa gctcctctgg ctctaccagg aggtggagcg gccctctcc 1320
cgggtcttgg cccacatgga ggcccggggg gtgaggctgg acgtccccct tctggaggcc 1380
ctctcctttg agctggagaa ggagatggag cgctggagg gggaggtctt ccgtttggcc 1440
ggccaccct tcaacctcaa ctcccgcgac cagctggaaa ggtcctctt tgacgagctg 1500
ggcctcacc cgggtggccg gacgcagaag acgggcaagc gctccaccgc ccagggggcc 1560
ctggaggccc tccggggggc ccaccccatc gtggagctca tcctccagta ccgggagctt 1620
tccaagctca aaagcaccta cctggacccc ctgccccggc tcgtccacc gcggacgggc 1680
cggctccaca cccgcttcaa ccagacggcc acggccacgg gaaggcttct cagctccgac 1740
cccaacctgc agaacatccc cgtgcgcacc cccttggggc agcgcatccg caaggccttc 1800
gtggccgagg aggggtgget ccttttggcg gcggactact ccagattga gctccgggtc 1860
ctggcccacc tctcggggga cgagaacctg aagcgggtct tccgggaggg gaaggacatc 1920
cataccgaga ccgccgctg gatgttcggc ttagaccccg ctctggtgga tccaaagatg 1980
cgccgggchg ccaagacggt caacttcggc gtctctacg ggatgtccgc ccacaggctc 2040
tcccaggagc tcggcataga ctacaaggag gcggaggcct ttattgagcg ctacttccag 2100
agcttcccca aggtgcgggc ctggatagaa aggacctgg aggagggccg gacgcggggc 2160
tacgtggaga ccctgttcgg caggaggcgc tatgtgccc acctggcctc ccgggtccgc 2220
tcgggtgcggg aggcggcgga gcggatggc ttcaacatgc ccgtgcaggg caccgcccgc 2280
gacctgatga agatcgccat ggtcaagctc ttccccaggc taaagccctt gggggcccac 2340

ctcctcctcc aagtgcacaa cgagctggtc ctggaggtgc ccgaggaccg ggccgaggag 2400
 gccaaaggccc tggtaagga ggtcatggag aacgcctacc ccctggacgt gcccctcgag 2460
 gtggaggtgg gcgtgggtcg ggactggctg gaggcgaagc aggat 2505

<210> 346
 <211> 835
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 346

Met	Asn	Ser	Thr	Pro	Leu	Phe	Asp	Leu	Glu	Glu	Pro	Pro	Lys	Arg	Val	1	5	10	15
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Tyr	Ala	Leu	20	25	30	
Ser	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Met	Val	Tyr	Gly	Phe	35	40	45	
Ala	Arg	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Gln	Ala	Val	Val	50	55	60	
Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Glu	65	70	75	80
Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	85	90	95	
Leu	Ala	Leu	Val	Lys	Arg	Leu	Val	Asp	Leu	Leu	Gly	Leu	Val	Arg	Leu	100	105	110	
Glu	Ala	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Gly	Thr	Leu	Ala	Lys	115	120	125	
Lys	Ala	Glu	Arg	Glu	Gly	Met	Glu	Val	Arg	Ile	Leu	Thr	Gly	Asp	Arg	130	135	140	
Asp	Phe	Phe	Gln	Leu	Leu	Ser	Glu	Lys	Val	Ser	Val	Leu	Leu	Pro	Asp	145	150	155	160
Gly	Thr	Leu	Val	Thr	Pro	Lys	Asp	Val	Gln	Glu	Lys	Tyr	Gly	Val	Pro	165	170	175	
Pro	Glu	Arg	Trp	Val	Asp	Phe	Arg	Ala	Leu	Thr	Gly	Asp	Arg	Ser	Asp	180	185	190	
Asn	Ile	Pro	Gly	Val	Ala	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu	Arg	Leu	195	200	205	

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
 225 230 235 240
 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly Arg Val
 325 330 335
 His Arg Ala Thr Ser Pro Val Glu Ala Leu Ala Asp Leu Lys Glu Ala
 340 345 350
 Arg Gly Phe Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly
 355 360 365
 Val Ala Leu Asp Pro Thr Asp Asp Pro Leu Leu Val Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ala Asn Thr His Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Phe Thr Glu Asp Ala Ala Glu Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 Phe Gln Asn Leu Phe Lys Arg Leu Ser Glu Lys Leu Leu Trp Leu Tyr
 420 425 430
 Gln Glu Val Glu Arg Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
 435 440 445
 Arg Gly Val Arg Leu Asp Val Pro Leu Leu Glu Ala Leu Ser Phe Glu
 450 455 460
 Leu Glu Lys Glu Met Glu Arg Leu Glu Gly Glu Val Phe Arg Leu Ala
 465 470 475 480
 Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
 485 490 495
 Phe Asp Glu Leu Gly Leu Thr Pro Val Gly Arg Thr Gln Lys Thr Gly
 500 505 510

Lys Arg Ser Thr Ala Gln Gly Ala Leu Glu Ala Leu Arg Gly Ala His
515 520 525

Pro Ile Val Glu Leu Ile Leu Gln Tyr Arg Glu Leu Ser Lys Leu Lys
530 535 540

Ser Thr Tyr Leu Asp Pro Leu Pro Arg Leu Val His Pro Arg Thr Gly
545 550 555 560

Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
565 570 575

Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
580 585 590

Gly Gln Arg Ile Arg Lys Ala Phe Val Ala Glu Glu Gly Trp Leu Leu
595 600 605

Leu Ala Ala Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
610 615 620

Ser Gly Asp Glu Asn Leu Lys Arg Val Phe Arg Glu Gly Lys Asp Ile
625 630 635 640

His Thr Glu Thr Ala Ala Trp Met Phe Gly Leu Asp Pro Ala Leu Val
645 650 655

Asp Pro Lys Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
660 665 670

Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Gly Ile Asp Tyr
675 680 685

Lys Glu Ala Glu Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
690 695 700

Val Arg Ala Trp Ile Glu Arg Thr Leu Glu Glu Gly Arg Thr Arg Gly
705 710 715 720

Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala
725 730 735

Ser Arg Val Arg Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
740 745 750

Met Pro Val Gln Glu Thr Ala Ala Asp Leu Met Lys Ile Ala Met Val
755 760 765

Lys Leu Phe Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln
770 775 780

Val His Asn Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu
785 790 795 800

Ala Lys Ala Leu Val Lys Glu Val Met Glu Asn Ala Tyr Pro Leu Asp
805 810 815

Val Pro Leu Glu Val Glu Val Gly Val Gly Arg Asp Trp Leu Glu Ala
820 825 830

Lys Gln Asp
835

<210> 347
<211> 2496
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 347
atgaattccc tgccctcttt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcgggtgt acgggttttg caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
gtgatcgtgg tgtttgacgc caaggccccc tccttccgcc accagacctt cgaggcctac 240
aaggcggggc gggtccccc ccccgaggac tttccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcac cctcaccgcg 420
gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480
ctgatcacc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540
taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 600
aagacggcgg ccaagctgat ccgggagtg ggaagcctgg aaaaccttct taagcacctg 660
gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720
ctatccctgg agctatcccc ggtgcacacg gacttgcctc ttcaggtgga cttcgcccgg 780
cgccgggagc cggaccggga ggggcttaag gccttttttg agaggctgga gttcggaagc 840
ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tcctggccg 900
ccccccgagg gagccttcgt ggggtacgt ctttccccgc ccgagcccat gtgggcggag 960
cttaacgcct tggccgcgcg ctggggcggc cgcgtttacc gggcggagga tcccttgag 1020
gccttgccgg ggcttgggga ggtgaggggg cttttggcca aggacctggc ggtgctggcc 1080
ctgagggaag ggattgccct ggcaccgggc gacgaccca tgctcctcgc ctacctctg 1140
gatccttcca acaccgcccc cgaaggggta gcccggcgct acggggggga gtggaccgag 1200
gaggcggggg aaagggcgct gctttccgaa aggctttacg ccgcccctct gaagcggctt 1260

				325					330					335	
Pro	Glu	Pro	Tyr	Lys	Ala	Leu	Arg	Asp	Leu	Lys	Glu	Ala	Arg	Gly	Leu
			340					345					350		
Leu	Ala	Lys	Asp	Leu	Ser	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Gly	Leu
		355					360					365			
Pro	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser
		370				375					380				
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
385					390					395					400
Glu	Glu	Ala	Gly	Glu	Arg	Ala	Ala	Leu	Ser	Glu	Arg	Leu	Phe	Ala	Asn
				405					410					415	
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg
			420					425						430	
Glu	Val	Glu	Arg	Pro	Leu	Ser	Ala	Val	Leu	Ala	His	Met	Glu	Ala	Thr
		435					440					445			
Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Ser	Leu	Glu	Val
		450				455					460				
Ala	Glu	Glu	Ile	Ala	Arg	Leu	Glu	Ala	Glu	Val	Phe	Arg	Leu	Ala	Gly
465					470					475					480
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe
			485						490					495	
Asp	Glu	Leu	Gly	Leu	Pro	Ala	Ile	Gly	Lys	Thr	Gln	Lys	Thr	Gly	Lys
			500					505						510	
Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro
		515					520					525			
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser
		530				535						540			
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg
545					550					555					560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser
				565					570					575	
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Ala	Thr	Pro	Leu	Gly
			580					585						590	
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val
		595					600					605			
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser
		610				615						620			
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His

625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835
 <210> 41
 <211> 839
 <212> PRT
 <213> Artificial
 <220>
 <223> Synthetic
 <400> 41
 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Glu Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350

Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Gln Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 43
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 43

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Glu Thr Glu Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225 230 235 240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
245 250 255

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
260 265 270

Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
275 280 285

Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
290 295 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
305 310 315 320

Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
325 330 335

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
340 345 350

Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
355 360 365

Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Gln Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 44
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 44

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly

258

370					375					380					
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
385					390					395					400
Glu	Glu	Ala	Gly	Glu	Arg	Ala	Ala	Leu	Ser	Glu	Arg	Leu	Phe	Ala	Asn
			405						410					415	
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg
			420					425						430	
Glu	Val	Glu	Arg	Pro	Leu	Ser	Ala	Val	Leu	Ala	His	Met	Glu	Ala	Thr
		435					440					445			
Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Ser	Leu	Glu	Val
		450				455					460				
Ala	Glu	Glu	Ile	Ala	Arg	Leu	Glu	Ala	Glu	Val	Phe	Arg	Leu	Ala	Gly
465					470					475					480
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe
			485						490					495	
Asp	Glu	Leu	Gly	Leu	Pro	Ala	Ile	Gly	Lys	Thr	Gln	Lys	Thr	Gly	Lys
			500					505						510	
Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro
		515					520					525			
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser
		530				535					540				
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg
545					550					555					560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser
				565				570						575	
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly
			580					585					590		
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val
		595					600					605			
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser
		610				615					620				
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His
625					630					635					640
Thr	Glu	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Arg	Glu	Ala	Val	Asp
				645					650					655	
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Ile	Asn	Phe	Gly	Val	Leu	Tyr
			660					665					670		
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu

675 680 685
Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700
Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720
Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735
Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765
Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780
Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800
Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815
Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830
Glu His His His His His His
835

<210> 45
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 45

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15
Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30
Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45
Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60
Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380

Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835

<210> 46
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 46

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400

Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Lys Ile Asn Lys Thr Lys Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 47
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 47

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu

100					105					110					
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
		130					135					140			
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
				150											160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
				165					170						175
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp
				180					185						190
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu
				195					200						205
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
				210					215						220
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
				230											240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu
				245					250						255
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala
				260					265						270
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu
				275					280						285
Leu	Glu	Ser	Pro	Lys	Ala	Leu	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu
				290					295						300
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala
				310											320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala
				325					330						335
Pro	Glu	Pro	Tyr	Lys	Ala	Leu	Arg	Asp	Leu	Lys	Glu	Ala	Arg	Gly	Leu
				340					345						350
Leu	Ala	Lys	Asp	Leu	Ser	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Gly	Leu
				355					360						365
Pro	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser
				370					375						380
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
				390											400
Glu	Glu	Ala	Gly	Glu	Arg	Ala	Ala	Leu	Ser	Glu	Arg	Leu	Phe	Ala	Asn

405										410					415									
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg									
420										425					430									
Glu	Val	Glu	Arg	Pro	Leu	Ser	Ala	Val	Leu	Ala	His	Met	Glu	Ala	Thr									
435										440					445									
Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Ser	Leu	Glu	Val									
450										455					460									
Ala	Glu	Glu	Ile	Ala	Arg	Leu	Glu	Ala	Glu	Val	Phe	Arg	Leu	Ala	Gly									
465										470					475					480				
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe									
485										490					495									
Asp	Glu	Leu	Arg	Ile	Pro	Lys	Ile	Lys	Lys	Thr	His	Lys	Thr	Gly	Lys									
500										505					510									
Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro									
515										520					525									
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser									
530										535					540									
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg									
545										550					555					560				
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser									
565										570					575									
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly									
580										585					590									
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val									
595										600					605									
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser									
610										615					620									
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His									
625										630					635					640				
Thr	Glu	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Arg	Glu	Ala	Val	Asp									
645										650					655									
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Ile	Asn	Phe	Gly	Val	Leu	Tyr									
660										665					670									
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu									
675										680					685									
Glu	Ala	Gln	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val									
690										695					700									
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Arg	Arg	Gly	Tyr									

705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835
 <210> 48
 <211> 839
 <212> PRT
 <213> Artificial
 <220>
 <223> Synthetic
 <400> 48
 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
500 505 510

Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 49

<211> 839

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 49

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Leu Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 50

<211> 842

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 50

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala

130					135					140					
Asp	Arg	Asp	Leu	Tyr	Gln	Leu	Val	Ser	Asp	Arg	Val	Ala	Val	Leu	His
145					150					155					160
Pro	Glu	Gly	His	Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly
				165					170					175	
Leu	Arg	Pro	Glu	Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro
			180					185					190		
Ser	Asp	Asn	Leu	Arg	Gly	Val	Arg	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu
		195					200					205			
Lys	Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu
	210					215					220				
Asp	Arg	Val	Lys	Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu
225					230					235					240
Glu	Asp	Leu	Arg	Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	Arg	Thr	Asp	Leu
				245					250					255	
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly
			260					265					270		
Leu	Arg	Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu
		275					280					285			
Phe	Gly	Leu	Leu	Glu	Ala	Pro	Ala	Pro	Leu	Glu	Glu	Ala	Pro	Trp	Pro
	290					295					300				
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Pro	Glu	Pro
305					310					315				320	
Met	Trp	Ala	Glu	Leu	Lys	Ala	Leu	Ala	Ala	Cys	Arg	Gly	Gly	Arg	Val
				325					330					335	
His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val
			340					345					350		
Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly
		355					360					365			
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu
	370					375					380				
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly
385					390					395				400	
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu
				405					410					415	
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp
			420					425					430		
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met

435 440 445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
500 505 510
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590
Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605
Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620
His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640
Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655
Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735
Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala

740	745	750
Phe Asn Met Pro Val Gln Gly	Thr Ala Ala Asp Leu Met Lys Leu Ala	
755	760	765
Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu		
770	775	780
Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala		
785	790	795
Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro		
805	810	815
Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu		
820	825	830
Ser Ala Lys Gly His His His His His His		
835	840	
<210> 51		
<211> 842		
<212> PRT		
<213> Artificial		
<220>		
<223> Synthetic		
<400> 51		
Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val		
1	5	10
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu		
20	25	30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly		
35	40	45
Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala		
50	55	60
Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala		
65	70	75
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro		
85	90	95
Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr		
100	105	110
Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu		
115	120	125
Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala		
130	135	140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Tyr Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 52
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 52

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Arg Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830

Ser Ala Lys Gly His His His His His His
 835 840

<210> 53
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 53

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg

165	170	175
Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp 180 185 190		
Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu 195 200 205		
Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg 210 215 220		
Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240		
Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255		
Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270		
Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285		
Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 295 300		
Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala 305 310 315 320		
Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala 325 330 335		
Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu 340 345 350		
Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu 355 360 365		
Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser 370 375 380		
Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 385 390 395 400		
Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn 405 410 415		
Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg 420 425 430		
Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr 435 440 445		
Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val 450 455 460		
Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly		

465		470		475		480
His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe						
	485			490		495
Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys						
	500			505		510
Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro						
	515			520		525
Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser						
	530			535		540
Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg						
	545			550		555
Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser						
	565			570		575
Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly						
	580			585		590
Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val						
	595			600		605
Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser						
	610			615		620
Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His						
	625			630		635
Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp						
	645			650		655
Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr						
	660			665		670
Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu						
	675			680		685
Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val						
	690			695		700
Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr						
	705			710		715
Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala						
	725			730		735
Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met						
	740			745		750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys						
	755			760		765
Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val						

770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835

 <210> 54
 <211> 839
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic

 <400> 54

 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Glu Thr Glu Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225 230 235 240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
245 250 255

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
260 265 270

Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
275 280 285

Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
290 295 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
305 310 315 320

Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
325 330 335

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
340 345 350

Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
355 360 365

Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
370 375 380

Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
385 390 395 400

Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 55
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 55

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Asn Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495

Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 56
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 56

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Gln Arg Lys Leu

195					200					205					
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
210					215					220					
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
225					230					235					240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu
				245					250					255	
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala
			260					265					270		
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu
			275				280					285			
Leu	Glu	Ser	Pro	Lys	Ala	Leu	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu
			290				295				300				
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala
305					310					315					320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala
			325						330					335	
Pro	Glu	Pro	Tyr	Lys	Ala	Leu	Arg	Asp	Leu	Lys	Glu	Ala	Arg	Gly	Leu
			340					345					350		
Leu	Ala	Lys	Asp	Leu	Ser	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Gly	Leu
			355				360					365			
Pro	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser
			370			375					380				
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
385					390					395					400
Glu	Glu	Ala	Glv	Glu	Arg	Ala	Ala	Leu	Ser	Glu	Arg	Leu	Phe	Ala	Asn
			405					410					415		
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Arg	Leu	Leu	Trp	Leu	Tyr	Arg
			420				425						430		
Glu	Val	Glu	Arg	Pro	Leu	Ser	Ala	Val	Leu	Ala	His	Met	Glu	Ala	Trp
			435				440					445			
Gly	Val	Arg	Leu	Asp	Val	Ala	Tyr	Leu	Arg	Ala	Leu	Ser	Leu	Glu	Val
			450			455					460				
Ala	Glu	Glu	Ile	Ala	Arg	Leu	Glu	Ala	Glu	Val	Phe	Arg	Leu	Ala	Gly
465					470					475					480
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe
			485					490						495	
Asp	Glu	Leu	Arg	Leu	Pro	Lys	Leu	Lys	Lys	Thr	Lys	Lys	Thr	Gly	Lys

500					505					510					
Arg	Ser	Ser	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro
		515					520					525			
Ile	Val	Glu	Lys	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser
	530					535					540				
Thr	Tyr	Ile	Asp	Pro	Leu	Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg
545					550					555					560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser
				565					570						575
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly
			580					585					590		
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val
		595					600					605			
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser
		610				615					620				
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His
625					630					635					640
Thr	Glu	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Arg	Glu	Ala	Val	Asp
				645					650						655
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Ile	Asn	Phe	Gly	Val	Leu	Tyr
			660					665					670		
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu
			675				680					685			
Glu	Ala	Gln	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val
		690				695					700				
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Arg	Arg	Gly	Tyr
705					710					715					720
Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Glu	Ala
				725					730					735	
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met
			740					745					750		
Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val	Lys
			755				760					765			
Leu	Phe	Pro	Arg	Leu	Glu	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val
			770				775				780				
Ala	Asn	Glu	Leu	Val	Leu	Glu	Ala	Pro	Lys	Glu	Arg	Ala	Glu	Ala	Val
			785			790				795					800
Ala	Arg	Leu	Ala	Lys	Glu	Val	Met	Glu	Gly	Val	Tyr	Pro	Leu	Ala	Val

805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835
 <210> 57
 <211> 839
 <212> PRT
 <213> Artificial
 <220>
 <223> Synthetic
 <400> 57
 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Met Gly Glu Lys Thr Gly Arg Lys Leu
 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510

Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
 530 535 540
 Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830

Glu His His His His His His
 835

<210> 58
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 58

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
 100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Asn Thr Ala Arg Lys Leu
 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
 355 360 365
 Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
 420 425 430
 Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
 450 455 460
 Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu His His His His His His
835

<210> 59
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 59

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1 5 10 15
Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20 25 30
Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35 40 45
Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50 55 60
Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80
Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95
Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100 105 110
Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125
Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140
Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160
Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175
Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190
Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Pro Ala Arg Lys Leu
195 200 205
Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220
Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu

225		230		235		240
Lys Leu Ser Trp Asp	Leu Ala Lys Val Arg Thr Asp	Leu Pro Leu Glu				
	245		250		255	
Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala						
	260		265		270	
Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu						
	275		280		285	
Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu						
	290		295		300	
Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala						
	305		310		315	320
Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala						
	325		330		335	
Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu						
	340		345		350	
Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu						
	355		360		365	
Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser						
	370		375		380	
Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr						
	385		390		395	400
Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn						
	405		410		415	
Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg						
	420		425		430	
Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr						
	435		440		445	
Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val						
	450		455		460	
Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly						
	465		470		475	480
His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe						
	485		490		495	
Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys Thr Gly Lys						
	500		505		510	
Arg Ser Ser Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro						
	515		520		525	
Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser						
	530		535		540	

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
 625 630 635 640
 Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
 785 790 795 800
 Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Glu His His His His His His
 835

<210> 60
<211> 839
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 60

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75					80
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
				85					90					95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105						110	
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
	130					135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145					150					155					160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
				165					170					175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp
			180					185					190		
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu
		195					200					205			
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
	210					215					220				
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
225					230					235					240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu

306

545 550 555 560
Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
 595 600 605
Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640
Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
 645 650 655
Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
 660 665 670
Gly Met Ser Ala His Ala Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720
Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
 725 730 735
Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800
Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
 805 810 815
Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
Glu His His His His His His
 835

<210> 61

<211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 61

```

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1          5          10          15

Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
          20          25          30

Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
          35          40          45

Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
          50          55          60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65          70          75          80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
          85          90          95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
          100          105          110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
          115          120          125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
          130          135          140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145          150          155          160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
          165          170          175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
          180          185          190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
          195          200          205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
          210          215          220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225          230          235          240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
          245          250          255

```

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
 420 425 430
 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460
 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540
 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640
 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780
 Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
 785 790 795 800
 Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
 805 810 815
 Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830
 Gly His His His His His His
 835
 <210> 62
 <211> 842
 <212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 62

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly
 355 360 365
 Leu Gly Leu Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu
 405 410 415
 Phe Ala Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp
 420 425 430
 Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser
 450 455 460
 Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp
 595 600 605
 Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg
 625 630 635 640
 Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala
 785 790 795 800
 Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Glu His His His His His His
 835 840

<210> 63<211> 835

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 63

```

Met Glu Phe Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
20          25          30

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
35          40          45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
50          55          60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
65          70          75          80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85          90          95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu
100         105         110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
115         120         125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
130         135         140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
145         150         155         160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
165         170         175

Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
180         185         190

Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
195         200         205

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
210         215         220

Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
225         230         235         240

Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
245         250         255

Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
260         265         270

Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
275         280         285

```


Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Glu Gly Arg Val
325 330 335

His Arg Ala Thr Ser Pro Val Glu Ala Leu Ala Asp Leu Lys Glu Ala
340 345 350

Arg Gly Phe Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly
355 360 365

Val Ala Leu Asp Pro Thr Asp Asp Pro Leu Leu Val Ala Tyr Leu Leu
370 375 380

Asp Pro Ala Asn Thr His Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Phe Thr Glu Asp Ala Ala Glu Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

Phe Gln Asn Leu Phe Lys Arg Leu Ser Glu Lys Leu Leu Trp Leu Tyr
420 425 430

Gln Glu Val Glu Arg Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
435 440 445

Arg Gly Val Arg Leu Asp Val Pro Leu Leu Glu Ala Leu Ser Phe Glu
450 455 460

Leu Glu Lys Glu Met Glu Arg Leu Glu Gly Glu Val Phe Arg Leu Ala
465 470 475 480

Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
485 490 495

Phe Asp Glu Leu Gly Leu Thr Pro Val Gly Arg Thr Gln Lys Thr Gly
500 505 510

Lys Arg Ser Thr Ala Gln Gly Ala Leu Glu Ala Leu Arg Gly Ala His
515 520 525

Pro Ile Val Glu Leu Ile Leu Gln Tyr Arg Glu Leu Ser Lys Leu Lys
530 535 540

Ser Thr Tyr Leu Asp Pro Leu Pro Arg Leu Val His Pro Arg Thr Gly
545 550 555 560

Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
565 570 575

Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
580 585 590

Gly Gln Arg Ile Arg Lys Ala Phe Val Ala Glu Glu Gly Trp Leu Leu
595 600 605

Leu Ala Ala Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
610 615 620

Ser Gly Asp Glu Asn Leu Lys Arg Val Phe Arg Glu Gly Lys Asp Ile
625 630 635 640

His Thr Glu Thr Ala Ala Trp Met Phe Gly Leu Asp Pro Ala Leu Val
645 650 655

Asp Pro Lys Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
660 665 670

Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Gly Ile Asp Tyr
675 680 685

Lys Glu Ala Glu Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
690 695 700

Val Arg Ala Trp Ile Glu Arg Thr Leu Glu Glu Gly Arg Thr Arg Gly
705 710 715 720

Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala
725 730 735

Ser Arg Val Arg Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
740 745 750

Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Ile Ala Met Val
755 760 765

Lys Leu Phe Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln
770 775 780

Val His Asn Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu
785 790 795 800

Ala Lys Ala Leu Val Lys Glu Val Met Glu Asn Ala Tyr Pro Leu Asp
805 810 815

Val Pro Leu Glu Val Glu Val Gly Val Gly Arg Asp Trp Leu Glu Ala
820 825 830

Lys Gln Asp
835

<210> 64
<211> 832
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 64

Met Glu Phe Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
35 40 45

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
50 55 60

Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
100 105 110

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu
130 135 140

Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr
145 150 155 160

Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser
165 170 175

Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile
180 185 190

Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg
195 200 205

Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys
210 215 220

Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys
225 230 235 240

Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Gln Val
245 250 255

Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe
260 265 270

Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
275 280 285

Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly

290	295	300
Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu 305 310 315 320		
Leu Asn Ala Leu Ala Ala Ala Trp Glu Gly Arg Val Tyr Arg Ala Glu 325 330 335		
Asp Pro Leu Glu Ala Leu Arg Gly Leu Gly Glu Val Arg Gly Leu Leu 340 345 350		
Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly Ile Ala Leu Ala 355 360 365		
Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn 370 375 380		
Thr Ala Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu 385 390 395 400		
Glu Ala Gly Glu Arg Ala Leu Leu Ser Glu Arg Leu Tyr Ala Ala Leu 405 410 415		
Leu Lys Arg Leu Lys Gly Glu Glu Arg Leu Leu Trp Leu Tyr Glu Glu 420 425 430		
Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly 435 440 445		
Val Arg Leu Asp Val Ala Tyr Leu Lys Ala Leu Ser Leu Glu Val Glu 450 455 460		
Ala Glu Ile Arg Arg Phe Glu Glu Glu Val His Arg Leu Ala Gly His 465 470 475 480		
Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Ile Phe Asp 485 490 495		
Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Gln Lys Thr Gly Lys Arg 500 505 510		
Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile 515 520 525		
Val Asp Arg Ile Leu Gln Tyr Arg Glu Leu Ser Lys Leu Lys Gly Thr 530 535 540		
Tyr Ile Asp Pro Leu Pro Ala Leu Val His Pro Lys Thr Asn Arg Leu 545 550 555 560		
His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser 565 570 575		
Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln 580 585 590		
Arg Ile Arg Arg Ala Phe Val Ala Glu Glu Gly Trp Arg Leu Val Val		

595 600 605
 Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
 610 615 620
 Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Gln Asp Ile His Thr
 625 630 635 640
 Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Ser
 645 650 655
 Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly
 660 665 670
 Met Ser Ala His Arg Leu Ser Gly Glu Leu Ala Ile Pro Tyr Glu Glu
 675 680 685
 Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Tyr Pro Lys Val Arg
 690 695 700
 Ala Trp Ile Glu Lys Thr Leu Ala Glu Gly Arg Glu Arg Gly Tyr Val
 705 710 715 720
 Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala Ser Arg
 725 730 735
 Val Lys Ser Ile Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
 740 745 750
 Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
 755 760 765
 Phe Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu Leu Gln Val His
 770 775 780
 Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Gln Ala Glu Glu Val Ala
 785 790 795 800
 Gln Glu Ala Lys Arg Thr Met Glu Glu Val Trp Pro Leu Lys Val Pro
 805 810 815
 Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Ala
 820 825 830

<210> 65
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 65

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
 20 25 30
 Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
 35 40 45
 Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
 65 70 75 80
 Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu
 100 105 110
 Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
 115 120 125
 Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
 130 135 140
 Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
 145 150 155 160
 Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
 165 170 175
 Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
 180 185 190
 Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
 195 200 205
 Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
 225 230 235 240
 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
 305 310 315 320

Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800
 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Gly His His His His His His
 835 840

<210> 66
 <211> 838
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 66

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60
 Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser
 165 170 175
 Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg
 195 200 205
 Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys
 210 215 220
 Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys
 225 230 235 240
 Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Gln Val
 245 250 255
 Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe
 260 265 270
 Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
 275 280 285
 Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
 290 295 300
 Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu
 305 310 315 320
 Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala
 325 330 335

Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu
 340 345 350
 Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val
 355 360 365
 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn
 370 375 380
 Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu
 385 390 395 400
 Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu
 405 410 415
 Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu
 420 425 430
 Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
 435 440 445
 Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala
 450 455 460
 Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His
 465 470 475 480
 Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp
 485 490 495
 Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg
 500 505 510
 Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile
 515 520 525
 Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr
 530 535 540
 Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu
 545 550 555 560
 His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser
 565 570 575
 Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln
 580 585 590
 Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala
 595 600 605
 Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
 610 615 620
 Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr
 625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro
 645 650 655
 Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly
 660 665 670
 Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
 675 680 685
 Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
 690 695 700
 Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val
 705 710 715 720
 Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg
 725 730 735
 Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
 740 745 750
 Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
 755 760 765
 Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala
 770 775 780
 Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala
 785 790 795 800
 Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro
 805 810 815
 Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
 820 825 830

His His His His His His
 835

<210> 67
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 67

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
 20 25 30
 Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
 35 40 45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
 65 70 75 80
 Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu
 100 105 110
 Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
 115 120 125
 Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
 130 135 140
 Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
 145 150 155 160
 Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
 165 170 175
 Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
 180 185 190
 Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
 195 200 205
 Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
 225 230 235 240
 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly Arg Val
 325 330 335
 His Arg Ala Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala
 340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly
355 360 365

Leu Gly Leu Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu
405 410 415

Phe Ala Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp
420 425 430

Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser
450 455 460

Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys
530 535 540

Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp
595 600 605

Leu Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg
625 630 635 640

Asp Ile His Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Glu Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala
 785 790 795 800
 Glu Ala Val Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Glu His His His His His His
 835 840
 <210> 68
 <211> 838
 <212> PRT
 <213> Artificial
 <220>
 <223> Synthetic
 <400> 68
 Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30
 Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val

50					55					60					
Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Gln	Thr	Tyr	Glu	Ala	Tyr
65					70					75					80
Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	Leu	Ala
				85					90					95	
Leu	Ile	Lys	Glu	Met	Val	Asp	Leu	Leu	Gly	Leu	Glu	Arg	Leu	Glu	Val
			100					105					110		
Pro	Gly	Phe	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	Ala	Lys	Lys	Ala
		115					120					125			
Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Arg	Asp	Leu
	130					135					140				
Tyr	Gln	Leu	Leu	Ser	Glu	Arg	Ile	Ser	Ile	Leu	His	Pro	Glu	Gly	Tyr
145						150					155				160
Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Lys	Pro	Ser
				165					170					175	
Gln	Trp	Val	Asp	Tyr	Arg	Ala	Leu	Ala	Gly	Asp	Pro	Ser	Asp	Asn	Ile
			180					185					190		
Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Ala	Lys	Leu	Ile	Arg
		195					200					205			
Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	His	Leu	Glu	Gln	Val	Lys
	210					215					220				
Pro	Ala	Ser	Val	Arg	Glu	Lys	Ile	Leu	Ser	His	Met	Glu	Asp	Leu	Lys
225						230					235				240
Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	His	Thr	Asp	Leu	Leu	Leu	Gln	Val
				245					250					255	
Asp	Phe	Ala	Arg	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Gly	Leu	Lys	Ala	Phe
			260					265					270		
Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu	Leu
		275					280					285			
Glu	Ser	Pro	Val	Ala	Ala	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu	Gly
	290					295					300				
Ala	Phe	Val	Gly	Tyr	Val	Leu	Ser	Arg	Pro	Glu	Pro	Met	Trp	Ala	Glu
305						310					315				320
Leu	Asn	Ala	Leu	Ala	Ala	Ala	Trp	Gly	Gly	Arg	Val	His	Arg	Ala	Pro
				325					330					335	
Glu	Pro	Tyr	Lys	Ala	Leu	Arg	Asp	Leu	Lys	Glu	Ala	Arg	Gly	Leu	Leu
			340					345					350		
Ala	Lys	Asp	Leu	Ser	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Gly	Leu	Pro

355	360	365
Pro Gly Asp Asp Pro Met	Leu Leu Ala Tyr Leu	Leu Asp Pro Ser Asn
370	375	380
Thr Thr Pro Glu Gly Val	Ala Arg Arg Tyr Gly Gly	Glu Trp Thr Glu
385	390	395
Glu Ala Gly Glu Arg Ala	Ala Leu Ser Glu Arg Leu	Phe Ala Asn Leu
405	410	415
Leu Lys Arg Leu Glu Gly	Glu Glu Arg Leu Leu Trp	Leu Tyr Arg Glu
420	425	430
Val Glu Arg Pro Leu Ser	Ala Val Leu Ala His Met	Glu Ala Thr Gly
435	440	445
Val Arg Leu Asp Val Ala	Tyr Leu Arg Ala Leu Ser	Leu Glu Val Ala
450	455	460
Glu Glu Ile Ala Arg Leu	Glu Ala Glu Val Phe Arg	Leu Ala Gly His
465	470	475
Pro Phe Asn Leu Asn Ser	Arg Asp Gln Leu Glu Arg	Val Leu Phe Asp
485	490	495
Glu Leu Gly Leu Pro Ala	Ile Lys Lys Thr Gln Lys	Thr Gly Lys Arg
500	505	510
Ser Thr Ser Ala Ala Val	Leu Glu Ala Leu Arg Glu	Ala His Pro Ile
515	520	525
Val Glu Lys Ile Leu Gln	Tyr Arg Glu Leu Thr Lys	Leu Lys Ser Thr
530	535	540
Tyr Ile Asp Pro Leu Pro	Asp Leu Ile His Pro Arg	Thr Gly Arg Leu
545	550	555
His Thr Arg Phe Asn Gln	Thr Ala Thr Gly Arg Leu	Ser Ser
565	570	575
Ser Asp Pro Asn Leu Gln	Asn Ile Pro Val Arg Thr	Pro Leu Gly Gln
580	585	590
Arg Ile Arg Arg Ala Phe	Ile Ala Glu Glu Gly Trp	Leu Leu Val Ala
595	600	605
Leu Asp Tyr Ser Gln Ile	Glu Leu Arg Val Leu Ala	His Leu Ser Gly
610	615	620
Asp Glu Asn Leu Ile Arg	Val Phe Gln Glu Gly Arg	Asp Ile His Thr
625	630	635
Glu Thr Ala Ser Trp Met	Phe Gly Val Pro Arg Glu	Ala Val Asp Pro
645	650	655
Leu Met Arg Arg Ala Ala	Lys Thr Ile Asn Phe Gly	Val Leu Tyr Gly

660 665 670
 Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
 675 680 685
 Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
 690 695 700
 Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val
 705 710 715 720
 Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg
 725 730 735
 Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
 740 745 750
 Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
 755 760 765
 Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala
 770 775 780
 Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala
 785 790 795 800
 Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro
 805 810 815
 Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu
 820 825 830
 His His His His His His
 835

<210> 69
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 69
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
 ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccgggc cccacacgcc gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcggagga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttccgcct tggggaagac gcaaaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggcgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcacccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccggagg ccgtggacc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100

ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgaacc tcaacgcccg ggtgaagagc 2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tcgccatggt gaagctcttc ccccgctcc gggagatggg ggcccgcagc 2340
ctcctccagg tccacaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggcg 2400
gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggcg 2460
gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 70
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 70
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg cacctctctc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaagccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccagag acttcccccg gcagctcgcc 300
ctcatcaagg agctgggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctgctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac ccgggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggcg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttctt ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtcca ccgggcccc 1020

gagccttata aagccctcag ggacctgaag gaggcgcggg ggcttctcgc caaagacctg 1080
 agcgttcttg ccctgagggg aggccttggc ctcccgcccg gcgacgaccc catgctcctc 1140
 gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcccggcg ctacggcggg 1200
 gagtggacgg aggaggcggg ggagcggggc gccctttccg agaggctctt cgccaacctg 1260
 tgggggaggg ttgaggggga ggagaggctc ctttggttt accgggaggt ggagaggccc 1320
 ctttccgctg tcctggccca tatggaggcc acgggggtgc gcctggacgt ggcctatctc 1380
 agggccttgt ccctggaggt ggccgaggag atcgcccgcc tcgaggccga ggtcttccgc 1440
 ctggccggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt cctctttgac 1500
 gagctagggc ttcccgccat cggcaagacg gagaagaccg gcaagcgctc caccagcgcc 1560
 gccgtcctgg aggcctccg cgaggccac cccatcgtag agaagatcct gcagtaccgg 1620
 gagctacca agctgaagag cacctacatt gacccttgc cggacctcat ccaccccagg 1680
 acgggcgcgc tccacaccg cttcaaccag acggccacgg ccacgggcag gctaagtagc 1740
 tccgatccca acctccagaa catccccgtc cgcacccgc ttgggcagag gatccgcccg 1800
 gccttcatcg ccgaggaggg gtggctattg gtggccctgg actatagcca gatagagctc 1860
 aggggtgctg cccacctctc cggcgacgag aacctgatcc ggtcttcca ggaggggcgg 1920
 gacatccaca cggagaccgc cagctggatg ttcggcgctc cccgggaggg cgtggacccc 1980
 ctgatgcgcc gggcggccaa gaccatcaac ttcgggggtc tctacggcat gtcggccac 2040
 cgctctccc aggagctagc catcccttac gaggaggccc aggccttcat tgagcgctac 2100
 tttcagagct tccccaagggt gcgggcctgg attgagaaga ccctggagga gggcaggagg 2160
 cgggggtacg tgagaccct ctteggcgc cgccgctacg tgccagacct agaggcccgg 2220
 gtgaagagcg tgcgggaggg ggccgagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgcccacc tcatgaagct ggctatggtg aagctcttcc ccaggctgga ggaaatgggg 2340
 gccaggatgc tccttcaggt ccacaacgag ctggtcctcg agggcccaaa agagagggcg 2400
 gaggccgtgg ccggctggc caaggaggtc atggaggggg tgtatcccct ggccgtgccc 2460
 ctggaggtgg aggtggggat aggggaggac tggctctccg ccaaggagca ccaccaccac 2520
 caccac 2526

<210> 71
 <211> 2517
 <212> DNA
 <213> Artificial

<220>

<223> Synthetic

<400> 71

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc	60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag	120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg	180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg	240
gggtacaagg cgggccgggc cccacgccg gaggacttcc cccggcaact cgcctcatc	300
aaggacctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac	360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc	420
accgcccaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag	480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg	540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc	600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag	660
aacctggacc ggctgaagcc cggcatccgg gagaagatcc tggcccacat ggacgatctg	720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc	780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttgcc	840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg	900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc	960
gatcttcttg ccctggccgc cggcaggggc ggccgcgtgc accgggcagc agaccccttg	1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg	1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc	1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg	1200
gaggacgccg cccacccggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc	1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg	1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt	1380
tccctggagc ttgcggagga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc	1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg	1500
cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg	1560

gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
 aagctcaaga acacctacgt ggacccccctc ccaagcctcg tccacccgag gacggggccgc 1680
 ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
 aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcac 1800
 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
 gccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
 acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggacce cctgatgcgc 1980
 cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
 caggagctag ccattccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgcgcctac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgcgcgcgac 2280
 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctcttcagg tccacaacga gctggtcctc gaggcccaaa aagagagggc ggaggccgtg 2400
 gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
 gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 72
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 72
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
 ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccggc cccacgccg gaggacttcc cccggcaact cgccttcac 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480

gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccccgc ggcgacgacc ccatgctcct cgcctaccte 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggg cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaacte ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgagggcca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160

gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtcagggagg cgcgggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tcgcatggt gaagctcttc cccgcctcc gggagatggg ggcccgcacg 2340
ctcctccagg tccacaacga gctcctctg gaggcccccc aagcgcgggc cgaggaggtg 2400
gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 73
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 73
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720
aagctctcct gggacctggc caagggtgcg accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080

gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgceg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccgc ctcgaggceg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac ggagaagacc ggaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccgacctca tccacccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gtteggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa ctteggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagctg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 74
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 74

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgcgc ggcgacgacc ccattgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc acatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgct tggggaagac gcaaaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680

ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggaggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggag accaccacca ccaccac 2517

<210> 75
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 75
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540

gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggcgcg cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggg caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgctt tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggccaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcgggca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcgcgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccgc 2280

ctcatgaage tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 76
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 76
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtcct tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggcctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgccc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140

ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccggca tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tcaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggacce cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc tcttcggccg ccgcgcctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcacaaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggc catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 77
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 77
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcog ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccaggg acttcccccg gcagctcgcc 300
ctcatcaagg agctgggtga cctcctgggg tttaaccgcc tcgaggctcc cggctacgag 360
gcggaacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggaggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcgga gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggg ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctcgagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgcg 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacaccog cttcaaccag acggccacgg ccacggggag gcttagtagc 1740

tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
 gccttcatcg ccgaggaggg gtggctattg gtggccctgg actatagcca gatagagctc 1860
 aggggtgctgg cccacctctc cggcgacgag aacctgatcc gggctctcca ggaggggagg 1920
 gacatccaca cggagaccgc cagctggatg ttcggcgctc cccgggaggg cgtggacccc 1980
 ctgatgcgcc gggcggccaa gaccatcaac ttcgggggtc tctacggcat gtcggcccac 2040
 cgctctccc aggagctagc catcccttac gaggaggccc aggccttcat tgagcgctac 2100
 tttcagagct tccccaaggt gcgggcctgg attgagaaga ccctggagga gggcaggagg 2160
 cgggggtacg tggagaccct cttcggccgc cgccgctacg tgccagacct agaggcccgg 2220
 gtgaagagcg tgcgggaggc ggccgagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct ggctatggtg aagctcttcc ccaggctgga ggaaatgggg 2340
 gccaggatgc tccttcaggt ccacaacgag ctggtcctcg aggccccaaa agagagggcg 2400
 gaggccgtgg cccggctggc caaggaggtc atggaggggg tgtatccctt ggccgtgccc 2460
 ctggaggtgg aggtggggat aggggaggac tggctctccg ccaaggagca ccaccaccac 2520
 caccac 2526

<210> 78
 <211> 2526
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 78
 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
 gaaccggtgc aggcggtcta cggttcgccc aagagcctcc tcaaggccct gaaggaggac 180
 ggggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttccg ccacgaggcc 240
 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
 ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgaggtccc cggctacgag 360
 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
 atcctcaccg ccgaccgcga cctctaccaa ctggtctccg accgcgtcgc cgtcctccac 480
 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
 cagtgggtgg acttcgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600

ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc agggggcggga gcccgaaccg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtcca ccgggcccc 1020
gagccttata aagccctcag ggacctgaag gaggcgcggg ggcttctcgc caaagacctg 1080
agcgttctgg ccctgaggga aggccttggc ctcccgcccc gcgacgacc catgctctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcccgcg ctacggcggg 1200
gagtggacgg aggaggcggg ggagcgggcc gccctttccg agaggctctt cgccaacctg 1260
tgggggaggc ttgaggggga ggagaggctc ctttggcttt accgggagggt ggagaggccc 1320
ctttccgctg tcctggccca tatggaggcc acgggggtgc gcctggacgt ggcctatctc 1380
agggccttgt ccctggagggt ggccgaggag atcgcccgcc tcgaggccga ggtcttccgc 1440
ctggccggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt cctctttgac 1500
gagctagggc ttcccgccat cggcaagacg gagaagaccg gcaagcgctc caccagcgcc 1560
gccgtcctgg aggccttcg cgaggccac cccatcgtgg agaagatcct gcagtaccg 1620
gagctacca agctgaagag cacctacatt gacccttgc cggacctcat ccaccccagg 1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacgggcag gctaagtagc 1740
tccgatccca acctccagaa catccccgtc cgcaccccg cttgggcagag gatccgccc 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgctcctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccg ccagggcacc 2280

gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt ccacaacgag ctctcctgg aggccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaaggggtca ccaccaccac 2520
 caccac 2526

<210> 79
 <211> 2499
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 79
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
 gggtagctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
 gccgactacc gggccctgac cggggacgag tccgacaacc tccccggggt caagggcatc 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
 gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
 gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccattgctcct cgcttacctc 1140

ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacgggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgaac tcaacgcccg ggtgaagagc 2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgcgcgcgar 2280
ctcatgaagc tcgcatggt gaagctcttc cccgcctcc gggagatggg ggcccgcag 2340
ctcctccagg tccacgacga gtcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400
gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggctttcc gccaaagggt 2499

<210> 80

<211> 2499

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 80

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatectc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc tcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggctgcg accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg cttcttgaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggagge caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tggggaagac gaaaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740

aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gccacctct ccggcgacga gaacctgac cggtctctcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccacccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccaggggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacgacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggag . 2499

<210> 81
<211> 2499
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 81
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggcttacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgcgc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggg cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacggggccgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggcttctc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccgaggg ccgtggacce cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgccggcctg gatagaaaag acctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgtac gtgcccgcacc tcaacgcccg ggtgaagagc 2220
gtcaggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tcgccatggt gaagctcttc ccccgccctc gggagatggg ggcccgcacg 2340

ctcctccagg tccacgacga gctcctcctg gagggccccc aagcgcgggc cgaggaggtg 2400
gcggttttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggctttcc gccaaaggt 2499

<210> 82
<211> 2499
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 82
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cggcatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagtccgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccaggggg gtggcccggc gctacggcgg ggagtggacg 1200

gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
 cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
 gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
 tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
 cacccttca acctcaactc ccgggaccag ctggaaagg tctctttga cgagctaggg 1500
 cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
 gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
 aagctgaaga gcacctacat tgacctcttg ccggacctca tccaccccag gacgggcccgc 1680
 ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
 aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
 gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
 gccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggcg ggacatccac 1920
 acggagaccg ccagctggat gtccggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
 cgggcggcca agaccatcaa ctccggggtc ctctacggca tgcggccca ccgctctcc 2040
 caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
 tcccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctcttcagg tccacgacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
 gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
 gaggtgggga taggggagga ctggctctcc gccaggag 2499

<210> 83
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 83
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120

ccggtgcagg cggtctacgg cttegccaaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggaacttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgcgc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg ggcaccgggc cgccctttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgcgcg ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcac 1800

gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgac cggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 84
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 84
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcgggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccaacctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcac 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720

aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctcc atcggaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggagge caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgct tggggaagac gcaaaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggccccaa aagagagggc ggaggccgtg 2400

gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggcctgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 85

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 85

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaag_gcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccg gaggacttcc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccttgac cggggacgag tccgacaacc ttcccggggg caagggcctc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc cctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg cctg_gccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320

gtcctggccc atatggagge caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatecgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgctt tggggaagac gcaaaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggcccgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatca cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgcgcgcgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 86
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 86
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180

gacgcggtga tegtgttctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt cgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc tcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagtctgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccctgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccttttcc gagaggctct tcgccaacct gtgggggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tggggaagac gcaaaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggecca cccatcgtg ggaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccccct ccaagcctcg tccacccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920

acggagaccg ccagctggat gttcggcgtc ccccgggagg cegtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccc tccaggggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gcccaaggagc accaccacca ccaccac 2517

<210> 87
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 87
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780

aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggcgcg cgcaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggccctcctc ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccg 1320
gtcctggccc atatggaggc cacgggggtg cgccgggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacggggccg 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggcccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggacce cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag acctggagg agggcaggag gcgggggtac 2160
gtggagacct tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 88
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 88
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcgggtga tcgtggtctt tgacgccaa gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtag gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc ctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcgggggctaa aggacctcaa ggaggtccgg ggccctcctc ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct ccaggccttg 1380

tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gccacct... ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 89
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 89
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggacttcc cccggcaact cgccctcatc 300

aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatactc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatac 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
tccttgagc ttgccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctctg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cggttcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980

cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cgcccagagc catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggc gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 90
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 90
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggctcctct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggc caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttctc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agcccgaagg ccctggagga ggccccctgg 900

ccccgcgcg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttcttg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggccctctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgcg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatccgcgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac ggagaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggcctatgg gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcacaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 91

<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 91
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cggggccgggc cccacgcccg gaggactttc cccggcaact cgccctcctc 300
aaggagctgg tggacctcct ggggctggcg cgctcagagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcgggggctaa aggacctcaa ggaggtccgg ggctcctcgc ccaaggacct cgccgtcttg 1080
gcctcagagg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacc 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggagg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500

cttccccgcca teggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacggggcgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccacccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 92
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 92
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgcgcg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgccctcagg tcccgggcta cgaggcggac 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgctc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga gggccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cttttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaagg 1500
cttcccgcca tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca cccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccacccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc cccggggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa ctccggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100

ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
 gcccggtg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
 gaggtgggga taggggagga ctggctctcc gcccaaggagc accaccacca ccaccac 2517

<210> 93
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 93
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cggctctacg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccggc cccacgcgc gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
 gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
 ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960

gatcttcttg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccacccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggetatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gagccccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 94
<211> 2517
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 94

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc	60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag	120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg	180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg	240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgcctcatc	300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac	360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc	420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag	480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg	540
gccgactacc gggccttgac cggggacgag tccgacaacc ttcccggggg caagggcatc	600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag	660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg	720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc	780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc	840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg	900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc	960
gatcttcttg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg	1020
gcgggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg	1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc	1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg	1200
gaggacgccg ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc	1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg	1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg	1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc	1440
caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg	1500
cttcccgcc tccgcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg	1560

gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagcaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg cggacctca tccacccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gccacctct cgggcgacga gaacctgac cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc ctttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggag accaccacca ccaccac 2517

<210> 95
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 95
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctcaccg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcggggc cccacgccg gaggacttcc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480

gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcgagg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggccctcctc ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cttttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcc a tggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga acacctacat tgacctcttg ccggacctca tccaccccag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160

gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 96
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 96
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcgggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgccctcctc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcacccgggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggaccggc caaggtgcgc accaacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcgggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080

gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccg ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcc a tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgcgctcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacgt ggacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggagggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggacce cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgccggcctg gattgagaag accctggagg agggcaggag gccgggggtac 2160
gtggagacce tcttcggccg ccgcgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgcgcgcgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 97
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 97
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggg cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgccc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc cacgggggtg cgctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac ggagaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccgagcctcg tccaccccag gacgggcccgc 1680

ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 98
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 98
atgaattcgg ggatgctgcc cctctttgag cccaagggcc ggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggacttcc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgacgcga tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540

gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggg cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttgg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat ctccggcgtc ccccgggagg ccgtggacce cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacct tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280

ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 99
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 99
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttegccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgctcagagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggccttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccagctcct cgctacctc 1140

ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttgggagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccttgaggg tggccgagga gatcgccgc ctcgaggccg aggtcttcg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gtccggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa ctccggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatgt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 100
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 100
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggctcctct ggtggacggc 60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gtggaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatcgaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcggt gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttg ccggacctca tccacccag gacgggccgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740

aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcgcctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tccacaacga gctggctctc gaggccccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 101
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 101
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctcgctctcc accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660

ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcgagg gcccagaccg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggagcg gccgggtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcttgccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccac cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggacgg aggacgccc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccaccgggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgctcctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggaggggaag 1920
gacatcgcca ccagaccgc aagctggatg ttcggcgtec ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgtec tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccagacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340

gcccgcacgc tcctccaggt ccacaacgag ctcctcctgg agggccccca agcgcggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccccct cgcggtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 102
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 102
atgaattccg aggcgatgct tccgctcttt gaaccctaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccagag acttcccccg gcagctcgcc 300
ctcatcaagg agctgggtga cctcctgggg ttaccctgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcggcac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgca cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcgcc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacctcttg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttg cctcgaggga ggggctagac ctcgtgcccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200

gagtggacgg aggacgccgc ccaccgggcc ctctctctcg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccttacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggccgcc tccacaccgc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctc tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggagggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacctt cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggaggcc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt ccacaacgag ctctctcttg agggcccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 103
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 103

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcct ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgca cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac ccggagtggt ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttcgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcgga gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctccc ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgccctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggcccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740

tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
cgcgtcctcg ccca'cctctc cggggacgaa aacctgatca gggctcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaagg gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 104
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 104
atgaattccg aggcgatgct tccgctcttt gaaccctaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggtctcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gcccaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccagag acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctctgtctcc accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540

cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtcggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtag ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggcccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctc cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagccgc aagctggatg ttggcgctcc ccccgaggc cgtggacccc 1980
ctgatgcgc gggcgccaa gacggtgaac ttggcgctcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacct cttcggaaga aggcgctacg tgcccacct caacgcccg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280

gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctctctgg aggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 105
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 105
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggctctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgcgcg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcac 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcgcgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatctttctg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080

gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggagggcg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccgc ctcgaggcgg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcggtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctcttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcgggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc ctttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggcccagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccagggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 106
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 106

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccg gaggactttc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgccc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggg cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttg cggacctca tccacccag gacgggcccgc 1680

ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggag ggacatcgcc 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccaaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 107
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 107
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac 600

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agcctcttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgccg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggc_acgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccgcc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt cgccaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccgc 2280

ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctcccttcagg tcgccaacga gctggctctc gaggecccaa aagagagggc ggaggccgtg 2400
 gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
 gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 108
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 108
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
 gggtagctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggc caagggcatc 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc ctcctcaag 660
 aacctggacc ggctgaagc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
 agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
 cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
 gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
 aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
 gccctgaggg aaggccttgg cctcccgcgc ggcgacgacc ccatgctcct cgcctacctc 1140
 ctggaccctt cgaacaccac ccccaggggg gtggcccggc gctacggcgg ggagtggacg 1200

gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcc tcaagaagac gcaaaagacc ggcaagcgt ccaccagcg cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggg gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggagggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 109
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 109
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc tcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgctt accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccctgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcca tcggcaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800

gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgac cggttcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccacccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gagggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggag accaccacca ccaccac 2517

<210> 110
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 110
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggctctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cggcccgggc cgagacggag gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcttc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660

aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgcgc ggcgacgacc ccctgctcct cgctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccgcc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgct gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttctg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcgccca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400

gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccaac 2517

<210> 111
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 111
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac ctccacgcc ctgaaggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggcgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260

cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggagge cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500
cttcccgcga tcggcaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggcg ggacatccac 1920
acggagaccg ccagctggat gtccggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 112
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 112
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180

gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcg accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctcttg ccggacctca tccacccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860

gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggcg ggacatccac 1920
 acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
 cgggcgggcca agaccatcaa cttcgggggtc ctctacggca tgcgggcca ccgcctctcc 2040
 caggagctag ccacccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
 ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
 ctccctcagg tcgccaacga gctggtcctc gaggcccaaa aagagagggc ggaggccgtg 2400
 gcccggtg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
 gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 113
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 113
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
 accgccgaca aagaccttta ccagctcctt tcgaccgca tccacgtcct ccaccccgag 480
 gggtagctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780

aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaagg 1500
cttccaaga tcaacaagac gaagaagacc ggtaagcgt ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggcca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgcgc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
egggcgggca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggcgc ccgcgcgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460

gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 114
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 114
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc ccccacggcg gaggaactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccaggggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccttttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380

tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaagg 1500
attcccaaga tcaagaagac gcataagacc ggtaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctcttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccattccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc ctttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 115
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 115
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240

gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
tccttgagg tggcgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcaactacat tgaccttgg ccggacctca tccaccccag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcacccc cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980

cgggaggcca agaccatcaa cttcgggggc ctctacggca tgcgggcca ccgcctctcc 2040
 caggagctag ccacccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
 ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
 gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
 gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
 ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
 ctcttcagg tcgccaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
 gcccggtgg ccaaggaggt catggagggg gtgtatcccc tggcgtgcc cctggagggtg 2460
 gaggtgggga taggggagga ctggctctcc gccaggagc accaccacca ccaccac 2517

<210> 116
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 116
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccggc cccacgccg gaggactttc cccggcaact cgccctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
 accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
 gggtagctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
 gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
 aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840

agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcgagg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accggggccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgt ccaccagcgc cgccctcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacccttg ccggacctca tccaccccag gacggggcgc 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggcttcatc 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggagg ccgtggacce cctgatgcgc 1980
cgggcgggca agaccatcaa cttcgggggtc ctctacggca tgtcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacce tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 117
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 117
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg ac cccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgccg tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcg 420
atcctcaccg ccgaccgcga cctctaccaa ctctgtctcc accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctctcc acaacctccg aggggtcagg 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gacctcttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccc gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggccc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggectacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440

ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggg gctctttgac 1500
gagcttaggc ttcccgctt gggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttggcgctcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgccaa gacgggtgaac ttggcgctcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tctccagggt cgccaacgag ctctccttgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaaggggtca ccaccaccac 2520
caccac 2526

<210> 118
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 118
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggteta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctcgctcccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agtataccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctccc ccccgagccc 960
atgtgggcgg agcttaaage cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcgtgccc gggacgacce catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcggggc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgctg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggcccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980

ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct ctccggaaga aggcgctacg tgcccgcact caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttgg agggccccca agcgcggggc 2400
gaggaggtgg cggcttttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 119
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 119
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaagjcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctcgctctcg accgcgtcgc cgtcctccac 480
cccagaggcc acctatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcaggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttccct ggagaggctg 840

gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtggggcg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgagg ctacgggggg 1200
gagtggacgg aggacgccc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt ggggaagacg caaaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccc 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggagggaag 1920
gacatccaca cccagaccgc aagctggatg ttccggctcc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgccaa gacggtgaac ttccggctcc tctacggcat gtccgccc 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tcccaagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacct caacgcccgg 2220
gtgaagagcg tcaggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgcctgggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgcacacgag ctctcctgg agggcccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat,gggggaggac tggctttccg ccaagggtca ccaccaccac 2520

caccac

2526

<210> 120

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 120

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc	60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag	120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg	180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg	240
gggtacaagg cgggcccgggc cccacgccc gagcacttcc cccggcaact cgcctcctc	300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac	360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc	420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag	480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg	540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc	600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag	660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg	720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc	780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc	840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg	900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggac	960
gatctttctg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat	1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg	1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccatgctcct cgcctacctc	1140
ctggaccctt cgaacaccac ccccaggggg gtggcccggc gctacggcgg ggagtggacg	1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg	1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct	1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg	1380

tccctggagg tggccgagga gatcgcccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctcttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccgc cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggag ggacatcca 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag acctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggag accaccacca ccaccac 2517

<210> 121
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 121
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240

gggtacaagg cgggccgggc cgagacggag gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gacgcttctg 1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccatgctcct cgctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgctggacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccgg 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcggt gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgacctttg ccggacctca tccacccag gacgggccc 1680
ctccacacc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgcgg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980

cgggaggcca agaccatcaa cttcgggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccattccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggacctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc ccagggtgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 122
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 122
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggacttcc cccggcaact cgccctcctc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caatggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840

agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccgcc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgt ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttctg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcgccca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag acctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccagggtgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggtgg ccaaggagg catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 123
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 123
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggaacttc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcctc 600
ggggagaaga cgcagaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accggggccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgcccg ctcgaggccg aggtcttccg cctggccggc 1440

caccccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc agsaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccccaggg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc ccttcggccg ccgccgtac gtgccagacc tagaggccc ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgccc tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggagg catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 124
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 124
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggctctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggcttacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggacttcc ccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggttcacg cgctcgagg tcccgggcta cgaggcggac 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatg 600
ggggagaaga cggggaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga gggcccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccctgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgagc tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttctg ccggacctca tccaccccag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc cccggggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040

caggagctag ccattccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacct tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gagggtggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 125

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 125

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggcttacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccc gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggttcacg cgctcagagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac 600
ggggagaata cggcgaggaa gcttctggag jagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960

gatcttcttg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcg gggttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccaggggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgcttgacg tggcctatct cagggccttg 1380
tccttgagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca cccatcttg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccttgg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgcgg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc cccggggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcggccca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgccggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccgc 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcttc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggagggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 126
<211> 2517
<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 126

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc	60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag	120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg	180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg	240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc	300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac	360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc	420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag	480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg	540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac	600
ggggagaagc cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag	660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg	720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc	780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc	840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga gggccctgg	900
ccccgcggg aaggggcctt cgtgggctt gtgctttccc gcaaggagcc catgtgggcc	960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat	1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg	1080
gccctgaggg aaggccttgg cctcccggcc ggcgacgacc ccattgctcct cgcctacctc	1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg	1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg	1260
cttgaggggg aggagaggct cttttggctt taccgggagg tggagaggcc cttttccgct	1320
gtcctggccc atatggaggc cacgggggtg cgcttgacg tggcctatct cagggccttg	1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc	1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg	1500
cttccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg	1560

gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct caggggtgctg 1860
gcccacctct ccggcgacga gaacctgac cgggtcttcc aggaggggcg ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgaggag ccgtggacc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagacc ctttcggccg ccgccgtac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgcgcgcac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaaggagc accaccacca ccaccac 2517

<210> 127
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 127
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacygc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggttcacg cgctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctctc 420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgccc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccccg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gcctgagggt aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgctggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctcagg 1500
cttcccaagt tgaagaagac gaagaagacc ggtaagcgct ccagcagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccc ggccttcac 1800
gccgaggagg ggtggtatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
geccacctct ccggcgacga gaacctgatc cgggtcttcc aggagggggc ggacatccac 1920
acggagaccg ccagctggat gtccggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa ctccggggtc ctctacggca tgcgggcca cgccctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160

gtggagaccc tcttcggccg ccgccgctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
ctcatgaagc tggctatggt gaagctcttc ccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggctctc gaggcccca aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaggagc accaccacca ccaccac 2517

<210> 128
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 128
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccc gaggactttc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agcccgaagg ccctggagga ggccccctgg 900
ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020

gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccc cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcgaggga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccccctc ccaagcctcg tccacccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gtccggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa ctccggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgccggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tcgccatggt gaagctcttc ccccgccctc ggagatggg ggcccgcacg 2340
ctcctccagg tcgccaacga gtcctcctg gaggcccccc aagcgcgggc cgaggagggtg 2400
gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggagggtg 2460
gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 129
<211> 2526
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 129

atgaattccg aggcgatgct tccgctcttt gaaccctaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gcccaaggccc cctccttcctg ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccg acccccaggg acttcccccg gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgga cctctaccaa ctgctctccg accgctcgc cgtcctccac	480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag	540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg	780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc	960
atgtgggccc agcttaaagc cctggccgcc tgcaggggag gccgcgtcca ccgggcccc	1020
gagccttata aagccctcag ggacctgaag gaggcgcggg ggcttctcgc caaagacctg	1080
agcgttctgg ccctgaggga aggccttggc ctcccgcccc gcgacgacct catgctctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcccgagg ctacggcggg	1200
gagtggacgg aggagggggg ggagcggggc gccctttccg agaggctctt cgccaacctg	1260
cttaagaggc ttgaggggga ggagaggctc ctttggcttt accgggaggt ggagaggccc	1320
ctttccgctg tcctggccca tatggaggcc acgggggtgc gcctggacgt ggcctatctc	1380
agggccttgt ccctggagggt ggccgaggag atcgcccgcc tcgaggccga ggtcttccgc	1440
ctggccggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt cctctttgac	1500
gagctagggc ttcccgccat caagaagacg caaaagaccg gcaagcgctc caccagcgcc	1560
gccgtcctgg aggcctccg cgaggccac cccatcgtgg agaagatcct gcagtaccgg	1620

gagctcacca agctgaagag cacctacatt gaccccttgc cggacctcat ccaccccagg 1680
 acgggccgcc tccacacccg cttcaaccag acggccacgg ccacgggcag gctaagtagc 1740
 tccgatccca acctccagaa catccccgtc cgcaccccg c ttgggcagag gatccgccgg 1800
 gccttcatcg ccgaggaggg gtggctattg ctggccctgg actatagcca gatagagctc 1860
 aggggtgctgg cccacctctc cggcgacgag aacctgatcc gggctctcca ggaggggcgg 1920
 gacatccaca cggagaccgc cagctggatg ttcggcgctc cccgggaggg cgtggacccc 1980
 ctgatgcgcc gggcgggcaa gaccatcaac ttcgggggtcc tctacggcat gtcggccccc 2040
 cgcctctccc aggagctagc catcccttac gaggaggccc aggccttcat tgagcgctac 2100
 tttcagagct tccccaaggt gcgggcctgg attgagaaga ccctggagga gggcaggagg 2160
 cgggggtacg tggagaccct cttcgccgc cgcgcctacg tgccagacct agaggcccgg 2220
 gtgaagagcg tgcgggaggg ggccgagcgc agggccttca acatgcccg ccagggcacc 2280
 gccgccgacc tcatgaagct ggctatggtg aagctcttcc ccaggctgga ggaaatgggg 2340
 gccaggatgc tccttcaggt cgccaacgag ctggctcctc agggcccaaa agagagggcg 2400
 gagggcgtgg cccggctggc caaggaggtc atggaggggg tgtatccctt ggccgtgccc 2460
 ctggaggtgg aggtggggat aggggaggac tggctctccg ccaaggagca ccaccaccac 2520
 caccac 2526

<210> 130
 <211> 2508
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 130
 atggaattca ccccaactttt tgacctggag gaacccccca agcgggtgct tctggtggac 60
 ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccaccte ccggggggag 120
 ccggtgcaga tgggtctacgg cttcgcccgg agcctcctca aggccttgaa ggaggacgga 180
 caggcggtgg tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
 gcctacaagg cgggcccggc cccacccccg gaggacttcc cccgccagct cgccttggtc 300
 aagcggctgg tggaccttct gggcctggtc cgcctcgagg ccccggggta cgaggcggac 360
 gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggaggt gcgcatactc 420
 acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480

gggaccctgg tcaccccaaa ggacgtccag gagaagtacg gggtgccccc ggagcgctgg 540
gtggacttcc gcgcctcac gggggaccgc tcggacaaca tccccggggg ggcggggata 600
ggggagaaga ccgcctctcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660
aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720
ctccacctct ccttagacct ggcccgcctc cgcaccgacc tccccctgga ggtggacttt 780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840
gagttcggaa gcctcctcca cgagttcggc ctctctggag gggagaagcc ccgggaggag 900
gccccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960
atgtgggcgg agcttctggc cctggcggcg gcctcggagg gccgggtcca ccgggcaaca 1020
agcccggttg aggccttggc cgacctcaag gagggccggg ggttccttgg caaggacctg 1080
gccgttttgg cctgcggga gggggtggcc ctggaccca cggacgacc cctcctggtg 1140
gcctacctcc tggacccggc caacacccac cccgaggggg tggcccgcg ctacgggggc 1200
gagttcacgg aggacgcagc ggagagggcc ctctctccg agaggctctt ccagaacctc 1260
tttaaacggc ttcccgagaa gctcctctgg ctctaccagg aggtggagcg gcccctcttc 1320
cgggtcttgg ccacatgga ggcccggggg gtgaggctgg acgtccccc tctggaggcc 1380
ctctcctttg agctggagaa ggagatggag cgcctggagg gggaggctct ccgtttggcc 1440
ggccacccct tcaacctcaa ctcccgcgac cagctggaaa gggtcctctt tgacgagctg 1500
ggcctcacc cggtagggcg gacgcagaag acgggcaagc gctccaccgc ccagggggcc 1560
ctggaggccc tccggggggc ccaccccatc gtggagctca tcctccagta ccgggagctt 1620
tccaagctca aaagcaccta cctggacccc ctgccccggc tcgtccacc gcggacgggc 1680
cggtccaca cccgcttcaa ccagacggcc acggccacgg gaaggctttc cagctccgac 1740
cccaacctgc agaacatccc cgtgcgacc cccttggggc agcgcatccg caaggccttc 1800
gtggccgagg aagggtggct ccttttggcg gcggactact ccagattga gctccgggtc 1860
ctggcccacc tctcggggga cgagaacctg aagcgggtct tccgggaggg gaaggacatc 1920
cataccgaga ccgcgcctg gatgttcggc ttagaccccg ctctggtgga tccaaagatg 1980
cgccgggcgg ccaagacggt caacttcggc gtctctacg ggatgtccgc ccacaggctc 2040
tcccaggagc tcggcataga ctacaaggag gcggaggcct ttattgagcg ctacttccag 2100
agcttcccca aggtgcgggc ctggatagaa aggaccctgg aggagggccg gacgcggggc 2160

tacgtggaga ccctgttcgg caggaggcgc tatgtgcccg acctggcctc ccgggtccgc 2220
tcggtgcggg aggcggcgga gcggatggcc ttcaacatgc ccgtgcaggg caccgccgcc 2280
gacctgatga agatcgccat ggtcaagctc ttccccaggc taaagcccct gggggcccac 2340
ctcctcctcc aagtgcacaa cgagctggtc ctggagggtgc ccgaggaccg ggccgaggag 2400
gccaaggccc tggtaagga ggtcatggag aacgcctacc ccctggacgt gcccctcgag 2460
gtggagggtg gcgtgggtcg ggactggctg gaggcgaagc aggattga 2508

<210> 131
<211> 2499
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 131
atggaattcc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
gtgatcgtgg tgtttgacgc caaggccccc tccttcgcgc accagacctt cgaggcctac 240
aaggcggggc gggtctccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420
gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggaggggttac 480
ctgatcacc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540
taccgggcct tggccgggga cccttcgcgc aacatccccg gcgtgaaggg catcggggag 600
aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660
gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720
ctatccctgg agctatcccc ggtgcacacg gacttgctcc ttcagggtgga cttcgcccg 780
cgccgggagc cggaccggga ggggcttaag gccttttttg agaggctgga gttcggaagc 840
ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg 900
cccccgagg gagccttcgt ggggtacgtt ctttccccgc ccgagcccat gtgggcggag 960
cttaacgcct tggccgccgc ctgggaggga agggtttacc gggcggagga tcccttgag 1020
gccttgccgg ggcttgggga ggtgaggggg cttttggcca aggacctggc ggtgctggcc 1080

ctgaggggaag ggattgccct ggcaccgggc gacgacccca tgctcctcgc ctacctcctg 1140
gatccttcca acaccgcccc cgaaggggta gcccggcgct acggggggga gtggaccgag 1200
gaggcggggg aaagggcgct gctttccgaa aggctttacg ccgccctcct gaagcggtt 1260
aagggggagg agaggcttct ttggctttac gaggagggtg aaaagcccct ttcgcgggtc 1320
ctggcccaca tggaggccac ggggggtacg ttggatgtgg cctacttaaa ggccctttcc 1380
ctggagggtg aggcggagat aaggcgcttc gaggaggagg tccaccgcct ggccgggcat 1440
cctttcaacc tgaactcccg ggaccagctg gaaagggta tctttgacga gcttgggtt 1500
cccgccatcg gcaagacgca gaagacgggc aagcgctcca ccagcgccgc cgttttgag 1560
gccttgcggt aggtcatcc catcgtggac cgcaccttc agtaccggga gctttccaag 1620
ctcaaggga cctacatcga tcccttgctt gccctggtcc accccaagac gaaccgcctc 1680
cacaccgtt tcaaccagac ggccaccgcc acggggaggc ttagcagctc ggatcctaat 1740
ctgcaaaata tccccgtgcg caccctttg ggcagcgga tccgcgggc cttcgtggc 1800
gaggaggggt ggaggctggt ggttttgac tacagccaga ttgagctcag ggtcctggc 1860
cacctttccg gggacgagaa cctaaccgg gtcttccagg agggccagga catccacacc 1920
cagacggcca gctggatgtt cggcgtgccc ccagaggccg tggattccct gatgcgcgg 1980
gcggccaaga ccatcaactt cggcgtcctc tacggcatgt ccgccaccg gctttcggga 2040
gagctggcca tcccctacga ggaggcggtg gccttcatcg agcggtatct ccagagctac 2100
cccaagggtg gggcctggat tgagaaaacc ctggcggaag gacgggaacg gggctatgtg 2160
gaaaccctct ttgcgcgcg gcgctacgtg cccgacttgg cttcccgggt gaagagcatc 2220
cgggaggcag cggagcgcac ggccttcaac atgcgggtcc aggggaccgc cgcggatttg 2280
atgaaactgg ccatggtgaa gctctttccc aggcttcagg agctgggggc caggatgctt 2340
ttgcagggtg acaacgaact ggtcctcgag gctcccaagg agcaagcgga ggaagtcgcc 2400
caggaggcca agcggaccat ggaggaggtg tggcccctga aggtgccctt ggagggtgaa 2460
gtgggcatcg gggaggactg gctttccgcc aaggcctag 2499

<210> 132
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 132
atgaattcca cccactttt tgacctggag gaacccccca agcgggtgct tctggtggac 60
ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccggggggag 120
ccggtgcaga tggctctacgg cttcgcccgg agcctcctca aggccttgaa ggaggacgga 180
caggcggtgg tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cgggcccggc cccacccccg gaggacttcc cccgccagct cgccttggtc 300
aagcggctgg tggaccttct gggcctggtc cgcctcgagg ccccggggta cgaggcggac 360
gacgtcctgg gcacctggc caagaaggcc gaaagggagg ggatggaggt gcgcctcctc 420
acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480
gggacctggt tcaccccaaa ggacgtccag gagaagtacg gggtgccccc ggagcgctgg 540
gtggacttcc gcgccctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600
ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660
aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720
ctccacctct ccttagacct ggcccgcac cgcaccgacc tccccctgga ggtggacttt 780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840
gagttcggaa gcctcctcca cgagttcggc ctcttgggag gggagaagcc ccgggaggag 900
gccccctggc ccccgccoga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960
atgtgggcgg agcttctggc cctggcggcg gcctcgggcg gccgcgtgca ccgggcagca 1020
gaccttctgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccg gggacgacct catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacyg aggacgccgc ccaccgggac ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcgcgc tcgaggagga ggtcttccgc 1440
ttggcgggccc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccaccgagg 1680

acggggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgcact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcatgc tcctccaggt cgccaacgag ctctctctgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 133
<211> 2514
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 133
atgaattccc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtacctttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcgggtg acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
gtgatcgtgg tgtttgacgc caaggcccc tccttccgcc accagacctc cgaggcctac 240
aaggcggggc gggctccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctacce tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420
gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480

ctgatcacc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540
taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 600
aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660
gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720
ctatccctgg agctatcccc ggtgcacacg gacttgctcc ttcaggtgga cttcgcccgg 780
cgccgggagc cggaccggga ggggcttaag gccttttttg agaggctgga gttcggaagc 840
ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg 900
ccccccgagg gaggcttcgt ggggtacgtt ctttcccgcc ccgagcccat gtgggcggag 960
cttaacgcct tggccgccc cgtggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020
gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctcgc cgtcttgccc 1080
tcgagggagg ggctagacct cgtgcccggg gacgaccca tgctcctcgc ctacctctg 1140
gaccttcga acaccacccc cgaggggggtg gcgcggcgct acggggggga gtggacggag 1200
gacgcgccc accgggccct cctctcggag aggctccatc ggaacctcct taagcgctc 1260
gagggggagg agaagctcct ttggctctac cacgaggtgg aaaagcccct ctcccgggtc 1320
ctggcccata tggaggccac cggggtacgg cgggacgtgg cctaccttca ggccctttcc 1380
ctggagcttg cggaggagat ccgcgcctc gaggaggagg tcttccgctt ggccggccac 1440
cccttcaacc tcaactcccg ggaccagctg gaaagggtgc tctttgacga gcttaggctt 1500
cccgccttga agaagacgaa gaagacaggc aagcgctcca ccagcgccgc ggtgctggag 1560
gccctacggg aggcccaccc catcgtggag aagatcctcc agcaccggga gctcaccaag 1620
ctcaagaaca cctacgtgga cccctccca agcctcgtcc acccgaggac gggccgctc 1680
cacaccgct tcaaccagac ggccacggcc acggggaggc ttagtagctc cgaccccaac 1740
ctgcagaaca tccccgtccg cacccttgg ggccagagga tccgcggggc cttcgtggcc 1800
gaggcgggtt gggcgttggt ggccctggac tatagccaga tagagctccg cgtcctcgc 1860
cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc 1920
cagaccgcaa gctggatggt cggcgtcccc ccggaggccg tggacccct gatgcgcgg 1980
gcccgaaga cggatgaact cggcgtcctc tacggcatgt ccgccatag gctctcccag 2040
gagcttgcca tcccctacga ggaggcgggt gcctttatag agcgctactt ccaaagcttc 2100
cccaagggtg gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160
gaaaccctct tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2220

agggaggccg cggagcgcat ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2280
atgaagctcg ccatggtgaa gctcttcccc cgcctccggg agatgggggc ccgcatgctc 2340
ctccaggctcg ccaacgagct cctcctggag gccccccaag cgcgggccga ggagggtggcg 2400
gctttggcca aggaggccat ggagaaggcc tatccccctcg ccgtgccccct ggagggtggag 2460
gtgggggatgg gggaggactg gctttccgcc aagggtcacc accaccacca ccac 2514

<210> 134
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 134
atgaattcca cccactttt tgacctggag gaacccccca agcgggtgct tctggtggac 60
ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccgggggggag 120
ccggtgcaga tggctctacgg ctctgcccgg agcctcctca aggccttgaa ggaggacgga 180
caggcgggtgg tcgtggtctt tgacgccaaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cgggcccgggc cccacccccg gaggacttcc cccgccagct cgccttggtc 300
aagcggctgg tggaccttct gggcctggtc cgcctcgagg ccccggggta cgaggcggac 360
gacgtcctgg gcaccctggc caagaaggcc gaaagggagg ggatggagggt gcgcacctc 420
acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac 480
gggaccctgg tcacccccaa ggacgtccag gagaagtacg ggggtgcccc ggagcgctgg 540
gtggacttcc gcgcctcac gggggaccgc tcggacaaca tccccggggt ggcggggata 600
ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag 660
aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac 720
ctccacctct ccttaccct ggcccgcac cgcaccgacc tccccctgga ggtggacttt 780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg 840
gagttcggaa gcctcctcca cgagttcggc ctctggggag gggagaagcc ccgggaggag 900
gccccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc 960
atgtgggcgg agcttctggc cctggcggcg gcctcgggcg gccgcgtcca ccgggcccc 1020
gagccttata aagccctcag ggacctgaag gaggcgcggg ggcttctcgc caaagacctg 1080

agcgttcttg ccctgagggg aggccttgge ctcccggccg gcgacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcccggcg ctacggcggg 1200
gagtggacgg aggaggcggg ggagcgggcc gccctttccg agaggctctt cgccaacctg 1260
cttaagaggc ttgagggggg ggagaggctc ctttggcttt accgggaggt ggagaggccc 1320
ctttccgctg tcctggccca tatggaggcc acgggggtgc gcctggacgt ggcctatctc 1380
agggccttgt ccctggaggt ggccgaggag atcgcccgcc tcgaggccga ggtcttccgc 1440
ctggccggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt cctctttgac 1500
gagctagggc ttcccggcat caagaagacg caaaagaccg gcaagcgctc caccagcgcc 1560
gccgtcctgg aggcctccg cgaggcccac cccatcgtag agaagatcct gcagtaccgg 1620
gagctcacca agctgaagag cacctacatt gacccttgc cggacctcat ccaccccagg 1680
acgggcccgc tccacaccgc cttcaaccag acggccacgg ccacgggcag gctaagtagc 1740
tccgatccca acctccagaa catccccgtc cgcaccccg cttgggcagag gatccgcccg 1800
gccttcatcg ccgaggaggg gtggctattg gtggccctgg actatagcca gatagagctc 1860
agggtgctgg cccacctctc cggcgacgag aacctgatcc gggctctcca ggagggggcg 1920
gacatccaca cggagaccgc cagctggatg ttcggcgctc cccgggagge cgtggacccc 1980
ctgatgcgcc gggcgggcaa gaccatcaac ttcgggggtc tctacggcat gtcggcccac 2040
cgctctccc aggagctagc catcccttac gaggaggccc aggccttcat tgagcgctac 2100
tttcagagct tccccaaggt gcgggcctgg attgagaaga ccctggagga gggcaggagg 2160
cgggggtacg tggagaccct cttcgggcgc cgccgctacg tgccagacct agaggcccgg 2220
gtgaagagcg tgccggaggc ggccgagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct ggctatggtg aagctcttcc ccaggctgga ggaaatgggg 2340
gccaggatgc tccttcaggt cgccaacgag ctggctcctg agggcccaaa agagagggcg 2400
gaggccgtgg cccggctggc caaggaggte atggaggggg tgtatcccct ggccgtgccc 2460
ctggaggtgg aggtggggat aggggaggac tggctctccg ccaaggagca ccaccaccac 2520
caccac 2526

<210> 135
<211> 2514
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 135

atgaattccc	tgccctctt	tgagcccaag	ggccgggtgc	ttctggtgga	cggccaccac	60
ctggcctacc	gtacctttt	tgccctgaag	ggcctcacca	ccagccgcgg	ggagccggtc	120
caggcgggtg	acgggtttgc	caagagcctt	ttgaaggcgc	taagggaaga	cggggatgtg	180
gtgatcgtgg	tgtttgacgc	caaggcccc	tccttcgcc	accagacct	cgaggcctac	240
aaggcggggc	gggctccac	ccccgaggac	tttccccggc	agcttgcct	tatcaaggag	300
atggtggacc	ttttgggcct	ggagcgcctc	gagggtgccg	gctttgaagc	ggatgacgtc	360
ctggctaccc	tggccaagaa	ggcggaaaag	gaaggctacg	aagtgcgc	cctcaccgcg	420
gaccgggacc	tttaccagct	tctttcggag	cgaatctcca	tccttcaccc	ggaggggttac	480
ctgatcaccc	cggagtggct	ttgggagaag	tatgggctta	agccttccca	gtgggtggac	540
taccgggcct	tggccgggga	cccttcggac	aacatccccg	gcgtgaagg	catcggggag	600
aagacggcgg	ccaagctgat	ccgggagtgg	ggaagcctgg	aaaaccttct	taagcacctg	660
gaacaggtga	aacctgcctc	cgtgcgggag	aagatcctta	gccacatgga	ggacctcaag	720
ctatccctgg	agctatcccc	ggtgcacacg	gacttgcctc	ttcaggtgga	cttcgcccgg	780
cgcggggagc	cggaccggga	ggggcttaag	gccttttttg	agaggctgga	gttcggaagc	840
ctcctccacg	agttcggcct	gttgaaagc	ccggtggcgg	cggaggaagc	tcctggccg	900
ccccccgagg	gagccttcgt	ggggtacgtt	ctttcccgcc	ccgagcccat	gtgggcggag	960
cttaacgcct	tggccgcccgc	ctggggcggc	cgcgtccacc	gggccccga	gccttataaa	1020
gccctcagg	acrtgaagga	ggcgcggggg	cttctcgcca	aagacctgag	cgttctggcc	1080
ctgagggaag	gccttggcct	cccgcccggc	gacgaccca	tgctcctcgc	ctacctctg	1140
gacccttcga	acaccacccc	cgaggggggtg	gcccggcgct	acggcgggga	gtggacggag	1200
gaggcggggg	agcgggcccgc	cctttccgag	aggctcttcg	ccaacctgct	taagaggctt	1260
gagggggagg	agaggctcct	ttggctttac	cgggaggtgg	agaggcccct	ttccgctgtc	1320
ctggcccata	tggaggccac	gggggtgcgc	ctggacgtgg	cctatctcag	ggccttgtcc	1380
ctggaggtgg	ccgaggagat	cgcgcgcctc	gaggccgagg	tcttcgcct	ggcggccac	1440
cccttcaacc	tcaactcccg	ggaccagctg	gaaagggtcc	tctttgacga	gctagggtt	1500
cccgccatca	agaagacgca	aaagaccggc	aagcgtcca	ccagcgccgc	cgtcctggag	1560
gccctccgcg	aggccacccc	catcgtggag	aagatcctgc	agtaccggga	gctcaccaag	1620

ctgaagagca cctacattga ccccttgccg gacctcatcc accccaggac gggccgcctc 1680
 cacacccgct tcaaccagac ggccacggcc acgggcaggc taagtagctc cgatcccaac 1740
 ctccagaaca tccccgtccg caccctgctt gggcagagga tccgccgggc cttcatcgcc 1800
 gaggaggggt ggctattggt ggccttgac tatagccaga tagagctcag ggtgctggcc 1860
 cacctctccg ggcagagaa cctgatccgg gtcttccagg aggggcggga catccacacg 1920
 gagaccgcca gctggatggt cggcgctccc cgggaggccg tggacccctt gatgcgccgg 1980
 gcggccaaga ccatcaactt cggggctctc tacggcatgt cggcccaccg cctctcccag 2040
 gagctagcca tcccttacga ggaggcccag gccttcattg agcgctactt tcagagcttc 2100
 cccaagggtgc gggcctggat tgagaagacc ctggaggagg gcaggaggcg ggggtacgtg 2160
 gagaccctct tggccgccc cgcctacgtg ccagacctag agggccgggt gaagagcgtg 2220
 cgggaggcgg ccgagcgcac ggccttcaac atgcccgtcc agggcaccgc cggcgacctc 2280
 atgaagctgg ctatggtgaa gctcttcccc aggctggagg aaatgggggc caggatgctc 2340
 cttcaggctc ccaacgagct ggtcctcgag gccccaaaag agagggcgga ggccgtggcc 2400
 cggctggcca aggaggctcat ggaggggggtg tatcccttgg ccgtgcccct ggaggtggag 2460
 gtggggatag gggaggactg gctctccgcc aaggagcacc accaccacca ccac 2514

<210> 136
 <211> 320
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 136

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Ile Asn Ser Gly
1 5 10 15

Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val Asp Gly
20 25 30

His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu Thr Thr
35 40 45

Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys Ser Leu
50 55 60

Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val Phe Asp
65 70 75 80

Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr Lys Ala

85										90					95				
Gly	Arg	Ala	Pro	Thr	Leu	Val	Pro	Arg	Gly	Ser	Glu	Asp	Phe	Pro	Arg				
			100					105					110						
Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Leu	Ala	Arg				
		115					120					125							
Leu	Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala				
		130				135					140								
Lys	Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp				
145					150					155					160				
Lys	Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro				
				165					170					175					
Glu	Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu				
			180					185					190						
Arg	Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser				
		195					200					205							
Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys				
	210					215					220								
Leu	Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp				
225					230					235					240				
Arg	Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp				
				245					250					255					
Leu	Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu				
			260					265					270						
Glu	Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg				
		275					280					285							
Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly				
		290				295						300							
Leu	Leu	Glu	Ser	Pro	Lys	Ala	Ala	Leu	Glu	His	His	His	His	His	His				
305					310					315					320				

<210> 137

<211> 73

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 137

ccctatcttt aaagttttta aaaagtttga ccccttttg ggggcctat ctttaaagtt 60

tttaaaaatt tga 73

<210> 138
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 138
cgcgcggaac gcgcg

15

<210> 139
<211> 16
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 139
cccgggtttt cccggg

16

<210> 140
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 140
aggcgcacca atttggtgtt

20

<210> 141
<211> 53
<212> RNA
<213> Artificial

<220>
<223> Synthetic

<400> 141
uucgcuuucu ucccuuccuu ucucgccacg uucgccggcu uuccccguca agc

53

<210> 142
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 142
acgggggaaag ccggcgaaacg tggcgagaaa 30

<210> 143
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 143
attagaaagg aagggaagaa agcgaa 26

<210> 144
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 144
acgggggaaag ccggcgaaacg tggcgagaaac 30

<210> 145
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 145
cttgacgggg aaagccggcg aacgtggcgc 30

<210> 146
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 146
agaaaggaag ggaagaaagc gaa 23

<210> 147
<211> 63
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 147

gcgcggcggc ggggtgtggtg gttacgcgca gcgtgaccgc tacacttgcc agcgccttag 60

cgc 63

<210> 148

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 148

gcgctagggc gctggcaagt gtagcgggtca 30

<210> 149

<211> 35

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 149

gatcgctgcg cgtaaccacc acacccgcgc cgcgc 35

<210> 150

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 150

ggactctgcc tcaagacggt agtcaacgtg 30

<210> 151

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 151

cacgttgact accgtc 16

<210> 152
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 152
catgtcaagc agtcctaact ttgaggcaga gtcc 34

<210> 153
<211> 2506
<212> DNA
<213> Thermus aquaticus

<400> 153
atgaggggga tgctgcccct ctttgagccc aagggccggg tcctcctggg ggacggccac 60
cacctggcct accgcacctt ccacgccctg aagggcctca ccaccagccg gggggagccg 120
gtgcaggcgg tctacggctt cgccaagagc ctctcaagg ccctcaagga ggacggggac 180
gcggtgatcg tgggtctttga cgccaaggcc cctccttcc gccacgaggc ctacgggggg 240
tacaaggcgg gccgggcccc cagcgggag gactttcccc ggcaactcgc cctcatcaag 300
gagctggtgg acctcctggg gctggcgcg ctcgaggtcc cgggctacga ggcggacgac 360
gtcctggcca gcctggccaa gaaggcggaa aaggagggt acgaggtccg catcctcacc 420
gccgacaaag acctttacca gctcctttcc gaccgcatcc acgtcctcca ccccgagggg 480
tacctcatca ccccggcctg gctttgggaa aagtacggcc tgaggcccga ccagtgggac 540
gactaccggg ccctgaccgg ggacgagtcc gacaaccttc ccgggggtcaa gggcatcggg 600
gagaagacgg cgaggaagct tctggaggag tgggggagcc tgggaagccct cctcaagaac 660
ctggaccggc tgaagcccgc catccgggag aagatcctgg cccacatgga cgatctgaag 720
ctctcctggg acctggccaa ggtgcgcacc gacctgcccc tggagggtgga cttcgccaaa 780
aggcgggagc ccgaccggga gaggcttagc gcctttctgg agaggcttga gtttggcagc 840
ctcctccacg agttcggcct tctggaaagc cccaaggccc tggaggaggc cccctggccc 900
ccgccggaag gggccttcgt gggctttgtg ctttcccgca aggagcccat gtgggcccga 960
cttctggccc tggccgcccgc cagggggggc cgggtccacc gggccccga gccttataaa 1020
gccctcaggg acctgaagga ggcgcggggg cttctcgcca aagacctgag cgttctggcc 1080
ctgagggaag gccttggcct cccgcccggc gacgaccca tgctcctcgc ctacctctg 1140
gaccttcca acaccacccc cgaggggggtg gcccggcgct acggcgggga gtggacggag 1200

gaggcggggg agcggggccgc cctttccgag aggctcttcg ccaacctgtg ggggaggctt 1260
gagggggagg agaggctcct ttggctttac cgggaggtgg agaggcccct ttccgctgtc 1320
ctggcccaca tggaggccac ggggggtgcac ctggacgtgg cctatctcag ggccttgctc 1380
ctggaggtgg ccgaggagat cggccgcctc gaggccgagg tcttccgcct ggccggccac 1440
cccttcaacc tcaactcccg ggaccagctg gaaagggtcc tctttgacga gctagggctt 1500
cccgccatcg gcaagacgga gaagaccggc aagcgctcca ccagcgccgc cgtcctggag 1560
gccctccgcg aggcccaccc catcgtggag aagatcctgc agtaccggga gctcaccaag 1620
ctgaagagca cctacattga ccccttgccc gacctcatcc accccaggac gggccgcctc 1680
cacaccgct tcaaccagac ggccacggcc acgggcaggc taagtagctc cgatcccaac 1740
ctccagaaca tcccgcgccg caccocgctt cggcagagga tccgccgggc cttcatcgcc 1800
gaggaggggt ggctattggt ggccctggac tatagccaga tagagctcag ggtgctggcc 1860
cacctctccg gcgacgagaa cctgatccgg gtcttccagg aggggcggga catccacacg 1920
gagaccgcca gctggatggt cggcgteccc cgggaggccg tggaccccct gatgcgccgg 1980
gcggccaaga ccatcaactt cggggtectc tacggcatgt cggcccaccg cctctcccag 2040
gagctagcca tcccttacga ggaggcccag gccttcattg agcgctactt tcagagcttc 2100
cccaagggtgc gggcctggat tgagaagacc ctggaggagg gcaggaggcg ggggtacgtg 2160
gagaccctct tcggccgccg ccgctacgtg ccagacctag aggcccgggt gaagagcgtg 2220
cgggaggcgg ccgagcgcac ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2280
atgaagctgg ctatggtgaa gctcttcccc aggctggagg aaatgggggc caggatgctc 2340
cttcagggtcc acgacgagct ggtcctcgag gcccctaaaag agagggcgga ggccgtggcc 2400
cggctggcca aggaggtcat ggaggggggtg tatcccctgg ccgtgcccct ggaggtggag 2460
gtggggatag gggaggactg gctctccgcc aaggagtgat accacc 2506

<210> 154

<211> 2496

<212> DNA

<213> *Thermus flavus*

<400> 154

atggcgatgc ttcccctctt tgagcccaaa ggccgcgtgc tcctggtgga cggccaccac 60
ctggcctacc gcaccttctt tgccctcaag ggcctcacca ccagccgcgg cgaaccggtt 120
caggcgggtct acggcttcgc caaaagcctc ctcaaggccc tgaaggagga cggggacgtg 180

gtggtggtgg tctttgacgc caaggccccc tccttccgcc acgaggccta cgaggcctac 240
aaggcggggc gggcccccac cccggaggac tttccccggc agctggccct catcaaggag 300
ttggtggacc tcctaggcct tgtgcggtg gaggttcccg gctttgaggc ggacgacgtg 360
ctggccaccc tggccaagcg ggcggaaaag gaggggtacg aggtgcgcat cctcactgcc 420
gaccgcgacc tctaccagct cctttcggag cgcacgcca tcctccaccc tgaggggtac 480
ctgatcacc cggcgtggct ttacgagaag tacggcctgc gcccgagca gtgggtggac 540
taccggggcc tggcggggga cccctcgat aacatccccg ggggtgaagg catcggggag 600
aagaccgcc agaggctcat ccgcgagtgg grragcctgg aaaacctctt ccagcacctg 660
gaccaggtga agccctcctt gcgggagaag ctccaggcgg gcatggaggc cctggccctt 720
tcccggaaagc tttcccaggt gcacactgac ctgcccctgg aggtggactt cgggaggcgc 780
cgcacacca acctggaggg tctgcgggt tttttggagc ggttggagtt tggaagcctc 840
ctccacgagt tcggcctcct ggagggggccg aaggcggcag aggaggcccc ctggccccct 900
ccggaagggg cttttttggg cttttccttt tcccgccccg agcccatgtg ggccgagctt 960
ctggccctgg ctggggcggt ggagggggcg ctccatcggg cacaagacc ccttaggggc 1020
ctgagggacc ttaagggggg gcggggaatc ctggccaagg acctggcggt tttggccctg 1080
cgggaggggc tggacctctt ccagaggac gaccccatgc tcctggccta ctttctggac 1140
ccctccaaca ccaccctga gggggtggcc cggcgttacg ggggggagtg gacggaggat 1200
gcgggggaga gggccctcct ggccgagcgc ctcttcaga ccctaaagga gcgccttaag 1260
ggagaagaac gcctgctttg gctttacgag gaggtggaga agccgctttc ccgggtgttg 1320
gcccgatgg aggcacggg ggtccggctg gacgtggcct acctccaggc cctctccctg 1380
gaggtggagg cggaggtgcg ccagctggag gaggaggtct tccgcctggc cggccacccc 1440
ttcaacctca actcccgcga ccagctggag cgggtgctct ttgacgagct gggcctgcct 1500
gccatcggca agacggagaa gacggggaaa cgctccacca gcgctgccgt gctggaggcc 1560
ctgcgagagg cccaccccat cgtggaccgc atcctgcagt accgggagct caccaagctc 1620
aagaacacct acatagaccc cctgcccgcc ctggtccacc ccaagaccgg ccggctccac 1680
accgcttca accagacggc caccgccacg ggcaggcttt ccagctccga ccccaacctg 1740
cagaacatcc ccgtgcgcac ccctctgggc cagcgcaccc gccgagcctt cgtggccgag 1800
gagggtggg tgctggtggt cttggactac agccagattg agcttcgggt cctggcccac 1860

ctctccgggg acgagaacct gatccgggtc tttcaggagg ggagggacat ccacacccag 1920
accgccagct ggatgttcgg cgtttccccc gaaggggtag accctctgat gcgccgggcg 1980
gccaagacca tcaacttcgg ggtgctctac ggcattgtccg cccaccgcct ctccggggag 2040
ctttccatcc cctacgagga ggcggtggcc ttcattgagc gctacttcca gagctacccc 2100
aaggtgcggg cctggattga ggggaccctc gaggagggcc gccggcgggg gtatgtggag 2160
accctcttcg gccgccggcg ctatgtgccc gacctcaacg cccgggtgaa gagcgtgcgc 2220
gaggcggcgg agcgcatggc cttcaacatg ccggtccagg gcaccgccgc cgacctcatg 2280
aagctggcca tgggtgcggct tttcccccg cttcaggaac tgggggagag gatgcttttg 2340
caggtgcacg acgagctggc cctcgaggcc cccaaggacc gggcgagag ggtagccgct 2400
ttggccaagg aggtcatgga gggggtctgg ccctgcagg tgccctgga ggtggagggtg 2460
ggcctggggg aggactggct ctccgccaag gagtag 2496

<210> 155

<211> 2505

<212> DNA

<213> Thermus thermophilus

<400> 155

atggaggcga tgcttccgct ctttgaacce aaaggccggg tcctcctggt ggacggccac 60
cacctggcct accgcacctt cttcgccctg aagggcctca ccacgagccg gggcgaaccg 120
gtgcaggcgg tctacggctt cgccaagagc ctctcaagg ccctgaagga ggacgggtac 180
aaggccgtct tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cggggagggc cccgaccccc gaggacttcc cccggcagct cgccttctc 300
aaggagctgg tggacctcct ggggtttacc cgcctcgagg tccccggcta cgaggcggac 360
gacgttctcg ccacctggc caagaaggcg gaaaaggagg ggtacgaggt gcgcctcctc 420
accgccgacc gcgacctcta ccaactcgtc tccgaccgcg tcgccgtcct ccaccccag 480
ggccacctca tcaccccgga gtggctttgg gagaagtacg gcctcaggcc ggagcagtgg 540
gtggacttcc gcgccctcgt gggggacccc tccgacaacc tccccggggt caagggcatc 600
ggggagaaga ccgccctcaa gctcctcaag gagtggggaa gcctggaaaa cctcctcaag 660
aacctggacc gggtaaagcc agaaaacgtc cgggagaaga tcaaggccca cctggaagac 720
ctcaggctct ccttgagct ctcccgggtg cgcaccgacc tccccctgga ggtggacctc 780
gcccaggggc gggagcccga ccgggagggg cttagggcct tcctggagag gctggagttc 840

ggcagcctcc tccacgagtt cggcctcctg gaggcccccg ccccccctgga ggaggcccc 900
tggccccgc cggaaggggc ctctgtgggc ttctgtctct cccgccccga gcccatgtgg 960
gcgagactta aagccctggc cgcctgcagg gacggccggg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgccctac 1140
ctcctggacc cctccaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcgga cctccttaag 1260
cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctcc 1320
cgggtcctgg ccacatgga ggccaccggg gtacggctgg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccaccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1500
aggcttccc ccttggggaa gacgcaaaag acaggcaagc gctccaccag cgccgcggtg 1560
ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctccaagcc tcgtccacc gaggaagggc 1680
cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740
cccaacctgc agaacatccc cgtccgcacc cccttgggccc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
cacaccaga ccgcaagctg gatgttcggc gtccccccgg aggcgtgga cccctgatg 1980
cgccgggchg ccaagacggt gaacttcggc gtctctacg gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160
tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220
agcgtcaggg aggcgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgc 2280
gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccg 2340
atgctcctcc aggtccacga cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gccctggag 2460
gtggaggtgg ggatggggga ggactggctt tccgccaagg gttag 2505

<210> 156
<211> 2502
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> n
<222> (1)..(2502)
<223> n is any of the bases g, a, t, or c

<400> 156
atgnnggcga tgcttcccct ctttgagccc aaaggccggg tcttcctggt ggacggccac 60
cacctggcct accgcacctt cttcgccctg aagggcctca ccaccagccg gggcgaaccg 120
gtgcaggcgg tctacggctt cgccaagagc ctctcaagg ccctgaagga ggacggggac 180
nnggcggtgn tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacgag 240
gcctacaagg cgggcccggg cccacccccg gaggactttc cccggcagct cgccctcatc 300
aaggagctgg tggacctcct ggggcttgcg cgctcgagg tccccggcta cgaggcggac 360
gacgtnctgg ccacctggc caagaaggcg gaaaaggagg ggtacgaggt gcgcctcctc 420
accgccgacc gcgacctcta ccagctcctt tccgaccgca tcgccgtcct ccaccccgag 480
gggtacctca tcaccccggc gtggcttttg gagaagtacg gcctgaggcc ggagcagtgg 540
gtggactacc gggccctggc gggggacccc tccgacaacc tccccggggt caagggcatc 600
ggggagaaga ccgcccngaa gctcctcnag gagtggggga gcctggaaaa cctcctcaag 660
aacctggacc ggggtgaagc cgccntccgg gagaagatcc agggccacat ggagacctg 720
angctctcct gggagctntc ccaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aagnggcggg agcccgaccg ggaggggctt agggcctttc tggagaggct ggagtttggc 840
agcctcctcc acgagttcgg cctcctggag ggcccgaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtccctttccc gcccagagcc catgtgggac 960
gagcttcttg ccctggccgc cgccaggag ggcgggtcc accgggcacc agaccccttt 1020
angggcctna gggacctnaa ggaggtgcgc ggnctcctcg ccaaggacct ggccgttttg 1080
gccctgaggg agggcctnga cctcntgcc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt ccaacaccac ccccgagggg gtggcccggc gctacggggg ggagtggacg 1200
gaggangcgg gggagcgggc cctcctntcc gagaggctct tcngaacct nnngcagcgc 1260

```

cttgaggggg aggagagggt cctttggctt taccaggagg tggagaagcc cctttcccgg 1320
gtcctggccc acatggaggc cacgggggtn cggctggacg tggcctacct ccaggccctn 1380
tccctggagg tggcggagga gatccgccgc ctcgaggagg aggtcttccg cctggccggc 1440
cacccttca acctcaactc cggggaccag ctggaaaggg tgctctttga cgagctnggg 1500
cttcccgcca tcggcaagac ggagaagacn ggcaagcgct ccaccagcgc cgccgtgctg 1560
gaggccctnc gngaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctcaaga acacctacat ngacccctg ccngncctcg tccacccag gacggggcgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccn ctggggcaga ggatccgccg ggccttcgtg 1800
gccgaggagg gntgggtgtt ggtggccctg gactatagcc agatagagct ccgggtcctg 1860
gcccacctct ccggggacga gaacctgatc cgggtcttcc aggaggggag ggacatccac 1920
accagaccg ccagctggat gttcggcgtc cccccggagg ccgtggacce cctgatgcgc 1980
cgggcgccca agaccatcaa cttcggggtc ctctacggca tgtccgcca ccgcctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttca ttgagcgcta cttccagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtgcgggagg cggcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggccatggt gaagctcttc ccccggtnc aggaatggg ggccaggatg 2340
ctcctncagg tccacgacga gctggtcctc gaggcccca aagagcgggc ggaggnggtg 2400
gcegttttg ccaaggaggt catggagggg gtctatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggctctcc gccaaaggat ag 2502

```

<210> 157

<211> 832

<212> PRT

<213> Thermus aquaticus

<400> 157

```

Met Arg Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu
1           5           10          15

```

```

Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly
          20          25          30

```

```

Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala

```


Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly
660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
675 680 685

Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val
705 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg
725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
755 760 765

Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val His
770 775 780

Asp Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala
785 790 795 800

Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro
805 810 815

Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu
820 825 830

<210> 158

<211> 831

<212> PRT

<213> Ther...us flavus

<400> 158

Met Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
35 40 45

Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Val Val Val Val Val
50 55 60

Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu Ala Tyr
65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala

85					90					95					
Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Leu	Val	Arg	Leu	Glu	Val
			100					105					110		
Pro	Gly	Phe	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	Ala	Lys	Arg	Ala
		115					120					125			
Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Arg	Asp	Leu
		130					135					140			
Tyr	Gln	Leu	Leu	Ser	Glu	Arg	Ile	Ala	Ile	Leu	His	Pro	Glu	Gly	Tyr
145						150					155				160
Leu	Ile	Thr	Pro	Ala	Trp	Leu	Tyr	Glu	Lys	Tyr	Gly	Leu	Arg	Pro	Glu
				165					170					175	
Gln	Trp	Val	Asp	Tyr	Arg	Ala	Leu	Ala	Gly	Asp	Pro	Ser	Asp	Asn	Ile
			180					185					190		
Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Gln	Arg	Leu	Ile	Arg
		195					200					205			
Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Phe	Gln	His	Leu	Asp	Gln	Val	Lys
		210				215					220				
Pro	Ser	Leu	Arg	Glu	Lys	Leu	Gln	Ala	Gly	Met	Glu	Ala	Leu	Ala	Leu
225				230					235					240	
Ser	Arg	Lys	Leu	Ser	Gln	Val	His	Thr	Asp	Leu	Pro	Leu	Glu	Val	Asp
			245						250					255	
Phe	Gly	Arg	Arg	Arg	Thr	Pro	Asn	Leu	Glu	Gly	Leu	Arg	Ala	Phe	Leu
			260					265					270		
Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu	Leu	Glu
		275					280					285			
Gly	Pro	Lys	Ala	Ala	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu	Gly	Ala
		290					295					300			
Phe	Leu	Gly	Phe	Ser	Phe	Ser	Arg	Pro	Glu	Pro	Met	Trp	Ala	Glu	Leu
305				310					315					320	
Leu	Ala	Leu	Ala	Gly	Ala	Trp	Glu	Gly	Arg	Leu	His	Arg	Ala	Gln	Asp
			325						330					335	
Pro	Leu	Arg	Gly	Leu	Arg	Asp	Leu	Lys	Gly	Val	Arg	Gly	Ile	Leu	Ala
			340					345					350		
Lys	Asp	Leu	Ala	Val	Leu	Ala	Leu	Arg	Glu	Gly	Leu	Asp	Leu	Phe	Pro
		355					360					365			
Glu	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser	Asn	Thr
		370					375					380			
Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr	Glu	Asp

385		390		395		400
Ala Gly Glu Arg	Ala Leu Leu Ala Glu Arg	Leu Phe Gln Thr	Leu Lys			
	405		410			415
Glu Arg Leu Lys	Gly Glu Glu Arg	Leu Leu Trp Leu Tyr	Glu Glu Val			
	420		425			430
Glu Lys Pro Leu Ser Arg Val	Leu Ala Arg Met	Glu Ala Thr Gly Val				
	435		440			445
Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Val Glu Ala						
	450		455			460
Glu Val Arg Gln Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro						
	465		470			475
Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu						
	485		490			495
Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys Arg Ser						
	500		505			510
Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val						
	515		520			525
Asp Arg Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr						
	530		535			540
Ile Asp Pro Leu Pro Ala Leu Val His Pro Lys Thr Gly Arg Leu His						
	545		550			555
Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser						
	565		570			575
Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg						
	580		585			590
Ile Arg Arg Ala Phe Val Ala Glu Glu Gly Trp Val Leu Val Val Leu						
	595		600			605
Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp						
	610		615			620
Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Gln						
	625		630			635
Thr Ala Ser Trp Met Phe Gly Val Ser Pro Glu Gly Val Asp Pro Leu						
	645		650			655
Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met						
	660		665			670
Ser Ala His Arg Leu Ser Gly Glu Leu Ser Ile Pro Tyr Glu Glu Ala						
	675		680			685
Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Tyr Pro Lys Val Arg Ala						

690	695	700
Trp Ile Glu Gly Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu 705 710 715 720		
Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val 725 730 735		
Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val 740 745 750		
Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Arg Leu Phe 755 760 765		
Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu Leu Gln Val His Asp 770 775 780		
Glu Leu Val Leu Glu Ala Pro Lys Asp Arg Ala Glu Arg Val Ala Ala 785 790 795 800		
Leu Ala Lys Glu Val Met Glu Gly Val Trp Pro Leu Gln Val Pro Leu 805 810 815		
Glu Val Glu Val Gly Leu Gly Glu Asp Trp Leu Ser Ala Lys Glu 820 825 830		

<210> 159

<211> 833

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<220>

<221> X

<222> (1)..(833)

<223> X is any amino acid

<400> 159

Met Xaa Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu 1 5 10 15

Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly 20 25 30

Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala 35 40 45

Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Xaa Val 50 55 60

Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu Ala 65 70 75 80

Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu
85 90 95

Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Xaa Arg Leu Glu
100 105 110

Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys
115 120 125

Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp
130 135 140

Leu Tyr Gln Leu Leu Ser Asp Arg Ile Ala Val Leu His Pro Glu Gly
145 150 155 160

Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro
165 170 175

Glu Gln Trp Val Asp Tyr Arg Ala Leu Xaa Gly Asp Pro Ser Asp Asn
180 185 190

Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Xaa Lys Leu Leu
195 200 205

Xaa Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg Val
210 215 220

Lys Pro Xaa Xaa Arg Glu Lys Ile Xaa Ala His Met Glu Asp Leu Xaa
225 230 235 240

Leu Ser Xaa Xaa Leu Ser Xaa Val Arg Thr Asp Leu Pro Leu Glu Val
245 250 255

Asp Phe Ala Xaa Arg Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe
260 265 270

Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
275 280 285

Glu Xaa Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
290 295 300

Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu
305 310 315 320

Leu Leu Ala Leu Ala Ala Ala Arg Xaa Gly Arg Val His Arg Ala Xaa
325 330 335

Asp Pro Leu Xaa Gly Leu Arg Asp Leu Lys Glu Val Arg Gly Leu Leu
340 345 350

Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly Leu Asp Leu Xaa
355 360 365

Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn
370 375 380

Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu
385 390 395 400

Asp Ala Gly Glu Arg Ala Leu Leu Ser Glu Arg Leu Phe Xaa Asn Leu
405 410 415

Xaa Xaa Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Xaa Glu
420 425 430

Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
435 440 445

Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Val Ala
450 455 460

Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His
465 470 475 480

Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp
485 490 495

Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys Arg
500 505 510

Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile
515 520 525

Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Asn Thr
530 535 540

Tyr Ile Asp Pro Leu Pro Xaa Leu Val His Pro Arg Thr Gly Arg Leu
545 550 555 560

His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser
565 570 575

Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln
580 585 590

Arg Ile Arg Arg Ala Phe Val Ala Glu Glu Gly Trp Xaa Leu Val Ala
595 600 605

Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
610 615 620

Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr
625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro
645 650 655

Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly
660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
 690 695 700
 Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val
 705 710 715 720
 Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg
 725 730 735
 Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
 740 745 750
 Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
 755 760 765
 Phe Pro Arg Leu Xaa Glu Met Gly Ala Arg Met Leu Leu Gln Val His
 770 775 780
 Asp Glu Leu Val Leu Glu Ala Pro Lys Xaa Arg Ala Glu Xaa Val Ala
 785 790 795 800
 Ala Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro
 805 810 815
 Leu Glu Val Glu Val Gly Xaa Gly Glu Asp Trp Leu Ser Ala Lys Glu
 820 825 830

Xaa

<210> 160
 <211> 640
 <212> RNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 160
 gggagcccag cuaugaacuc cuuccaccaca agcgccuucg guccaguugc cuuccuccug 60
 gggcugcucc ugguguugcc ugcugccuuc ccugccccag uacccccagg agaagauucc 120
 aaagauguag ccgccccaca cagacagcca cucaccucuu cagaacgaau ugacaaacaa 180
 auucgguaca uccucgacgg caucucagcc cugagaaagg agacauguua caagaguaac 240
 augugugaaa gcagcaaaga ggcacuggca gaaaacaacc ugaaccuucc aaagauggcu 300
 gaaaaaagau gaugcuucca aucuggauuc aaugaggaga cuugccuggu gaaaaucauc 360
 acuggucuuu uggaguuuuga gguauaccua gaguaccucc agaacagauu ugagaguagu 420
 gaggaacaag ccagagcugu ccagaugagu acaaaagucc ugauccaguu ccugcagaaa 480
 aaggcaaaga aucuagaugc aaauaccacc ccugacccaa ccacaaaugc cagccugcug 540

acgaagcugc aggcacagaa ccaguggcug caggacauga caacucaucu cauucugcg 600
agcuuuaagg aguuccugca guccagccug agggcucuuc 640

<210> 161
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 161
agggagaagg caactggacc gaaggcc 27

<210> 162
<211> 35
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> n
<222> (1)..(1)
<223> TH 5' end has a fluorescein label.

<220>
<221> n
<222> (35)..(35)
<223> TH 3' end is modified with a dideoxynucleotide.

<400> 162
ncgaaattaa tacgcttggtg gagaaggagt tcatn 35

<210> 163
<211> 53
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 163
gctatgaact ccttctccac aagcgccttc ggtccagttg ccttctccct ggg 53

<210> 164
<211> 214
<212> PRT
<213> Artificial

<220>

<223> Synthetic

<400> 164

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
1 5 10 15
Glu Trp Thr Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu
20 25 30
Phe Ala Asn Leu Trp Gly Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp
35 40 45
Leu Tyr Arg Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met
50 55 60
Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Arg Ala Leu Ser
65 70 75 80
Leu Glu Val Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg
85 90 95
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
100 105 110
Val Leu Phe Asp Glu Leu Gly Leu Pro Ala Ile Gly Lys Thr Glu Lys
115 120 125
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
130 135 140
Ala His Pro Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys
145 150 155 160
Leu Lys Ser Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg
165 170 175
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
180 185 190
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
195 200 205
Pro Leu Gly Gln Arg Ile
210

<210> 165

<211> 214

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 165

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 1 5 10 15
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 20 25 30
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 35 40 45
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 50 55 60
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 65 70 75 80
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 85 90 95
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 100 105 110
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys
 115 120 125
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 130 135 140
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 145 150 155 160
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 165 170 175
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 180 185 190
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 195 200 205
 Pro Leu Gly Gln Arg Ile
 210

<210> 166

<211> 37

<212> RNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> n

<222> (1)..(1)

<223> TH 5' end is modified with a biotin-streptavidin complex.

<400> 166
nucacggcag uuggugcgcc ucggaacgag gcgcacg

37

<210> 167
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> n
<222> (1)..(1)
<223> TH 5' end is labeled with tetrachlororfluorescein.

<400> 167
nttttcaact gccgtga

17

<210> 168
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 168
tcacggcagt tggcgccct cggaacgagg cgcacg

36

<210> 169
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 169
cgccgagatc acctttacat tttctatcgt

30

<210> 170
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 170
ccttccttat cctggatctt ggca

24

<210> 171
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 171
acgatagaaa atgtaaaggt gatc

24

<210> 172
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> n
<222> (4)..(4)
<223> The residue at this position is a z28 linker group.

<400> 172
ctcnttctca gtgcg

15

<210> 173
<211> 29
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 173
cgcagtgaga atgaggtgat ctcggcggt

29

<210> 174
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 174
ccgccgagat cacggatggt gtaatcagag a

31

<210> 175
<211> 21

<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 175
gtgcagggtt gactccttct c

21

<210> 176
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 176
gtgcagggtt gactctttct c

21

<210> 177
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 177
gtgcagggtc gactctttct c

21

<210> 178
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 178
tctctgatta caacatccgt gatct

25

<210> 179
<211> 29
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 179
cgccgagatc acgtagttga ggtcaatga

29

<210> 180
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 180
gaatcatact ggaacatgta gaccatc

27

<210> 181
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 181
tcattgacct caactacgtg atct

24

<210> 182
<211> 28
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 182
ccgcgcgagat cacgatgatc ttgaggct

28

<210> 183
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 183
tggtgcagga ggcattgctc

20

<210> 184
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 184
cagcctcaag attaccgtga tct 23

<210> 185
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 185
ccgtcacgcc tcctccacgg etc 23

<210> 186
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 186
aggcgaaagc cctcaatttc cca 23

<210> 187
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 187
aaccactgcc gcaca 15

<210> 188
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 188
gagccgtgga ggaggcg 17

<210> 189
<211> 14
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<220>

<221> n

<222> (4)..(4)

<223> The residue at this position is a z28 linker group.

<400> 189

cacntgcttc gtgg

14

<210> 190

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 190

ccaggaagca agtggaggcg tgacggt

27

<210> 191

<211> 26

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 191

ccgtcacgcc tccttcggag tttggg

26

<210> 192

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 192

gggttggtgga gtgagtgttc aagta

25

<210> 193

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 193
gggaaactcc gaaggaggcg 20

<210> 194
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 194
ccgtcacgcc tctctgactg cca 23

<210> 195
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 195
ttgtcactcg gggttcgaga agatgaa 27

<210> 196
<211> 11
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 196
gggccagagg g 11

<210> 197
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 197
aggcagtcag agaggcg 17

<210> 198
<211> 26
<212> DNA
<213> Artificial

245										250					255				
Leu	Leu	Gln	Val	Asp	Phe	Ala	Arg	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Gly				
			260						265					270					
Leu	Lys	Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu				
		275					280					285							
Phe	Gly	Leu	Leu	Glu	Ser	Pro	Val	Ala	Ala	Glu	Glu	Ala	Pro	Trp	Pro				
	290					295						300							
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Tyr	Val	Leu	Ser	Arg	Pro	Glu	Pro				
305					310					315					320				
Met	Trp	Ala	Glu	Leu	Asn	Ala	Leu	Ala	Ala	Ala	Trp	Gly	Gly	Arg	Val				
				325					330						335				
His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val				
		340						345					350						
Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly				
		355					360					365							
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu				
	370					375					380								
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly				
385					390					395					400				
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu				
				405					410					415					
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp				
			420					425					430						
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met				
		435					440					445							
Glu	Ala	Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser				
	450					455					460								
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg				
465					470					475					480				
Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg				
				485					490				495						
Val	Leu	Phe	Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu	Lys	Lys	Thr	Lys	Lys				
			500					505					510						
Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu				
		515					520					525							
Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys				530
535					540														
Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg				

545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800
 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Gly His His His His His His
 835 840
 <210> 473

<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 473
aagccactcc ggggtgatca ggtaacc

27

<210> 474
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 474
atcaccccg agtggctttg ggagaag

27

<210> 475
<211> 2514
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 475
atgaattccc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtacctttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
gtgatcgtgg tctttgacgc cgaggccccc tccttcgcgc accagacctt cgaggcctac 240
aaggcggggc gggctccac ccccgaggac ttcccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgcctc gaggtgcgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcac cctcaccgcg 420
gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggagggtt 480
ctgatcacc cggagtggct ttgggagaag tacggcctca ggccggagca gtgggtggac 540
ttccgcgccc tcgtggggga cccctccgac aacctccccg gggtaagggt catcggggag 600
aagaccgccc tcaagctcct caaggagtgg ggaagcctgg aaaacctcct caagaacctg 660
gaccgggtaa agccagaaaa cgtccgggag aagatcaagg cccacctgga agacctcagg 720
ctctccttgg agctctcccg ggtgcgcacc gacctcccc tggagggtgga cctcgcccag 780

gggcgggagc cgcaccggga ggggcttagg gccttcctgg agaggctgga gttcggcagc 840
ctcctccaag agttcggcct cctggaggcc cccgcccccc tggaggaggc cccctggccc 900
ccgccggaag gggccttcgt gggcttcgtc ctctcccgcc ccgagcccat gtgggcggag 960
cttaaagccc tggccgcctg caggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020
gggctaaagg acctcaagga ggtccggggc ctctcgcca aggacctcgc cgtcttggcc 1080
tcgaggagg ggctagacct cgtgcccggg gacgaccca tgctcctcgc ctacctctg 1140
gaccttcga acaccacccc cgaggggggtg gcgcggcgct acggggggga gtggacggag 1200
gacgccgcc accgggcccct cctctcggag aggtccatc ggaacctcct taagcgctc 1260
gagggggagg agaagctcct ttggctctac cacgaggtg aaaagcccct ctcccgggtc 1320
ctggcccata tggaggccac cggggtagcg cgggacgtgg cctaccttca ggccctttcc 1380
ctggagcttg cggaggagat ccgccgcctc gaggaggagg tcttccgctt ggccggccac 1440
cccttcaacc tcaactcccg ggaccagctg gaaagggtgc tctttgaaga gcttaggctt 1500
ccgccttga agaagacgaa gaagacaggc aagcgctcca ccagcgccgc ggtgctggag 1560
gccctacggg agggccaccc catcgtggag aagatcctcc agcaccggga gctaccaag 1620
ctcaagaaca cctacgtgga cccctccca agcctcgtcc acccgaggac gggccgcctc 1680
cacaccgct tcaaccagac ggccacggcc acggggaggc ttagtagctc cgaccccaac 1740
ctgcagaaca tcccgtccg caccctcttg ggccagagga tccgccgggc cttcgtggcc 1800
gaggcgggtt gggcgttggt ggccctggac tatagccaga tagagctccg cgtcctcgcc 1860
cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc 1920
cagaccgcaa gctggatggt cggcgctccc ccggaggccg tggaccccct gatgcgccgg 1980
gcggccaaga cggtgaaactt cggcgctcctc tacggcatgt ccgcccatag gctctcccag 2040
gagcttgcca tcccctacga ggaggcgggt gcctttatag agcgctactt ccaaagcttc 2100
cccaagggtgc gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160
gaaaccctct tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2220
agggaggccg cggagcgcac ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2280
atgaagctcg ccatggtgaa gctcttcccc cgcctccggg agatgggggc ccgcatgctc 2340
ctccaggctc ccaacgagct cctcctggag gcccccaag cgcgggcccga ggaggtggcg 2400
gctttggcca aggaggccat ggagaaggcc tatccctcgc ccgtgcccct ggaggtggag 2460

gtgggggatgg gggaggactg gctttccgcc aagggtcacc accaccacca ccac

2514

<210> 476
 <211> 838
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 476

Met	Asn	Ser	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu	Leu	Val	1	5	10	15
Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu	Lys	Gly	Leu	20	25	30	
Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe	Ala	Lys	35	40	45	
Ser	Leu	Leu	Lys	Ala	Leu	Arg	Glu	Asp	Gly	Asp	Val	Val	Ile	Val	Val	50	55	60	
Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Gln	Thr	Tyr	Glu	Ala	Tyr	65	70	75	80
Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	Leu	Ala	85	90	95	
Leu	Ile	Lys	Glu	Met	Val	Asp	Leu	Leu	Gly	Leu	Glu	Arg	Leu	Glu	Val	100	105	110	
Pro	Gly	Phe	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	Ala	Lys	Lys	Ala	115	120	125	
Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Arg	Asp	Leu	130	135	140	
Tyr	Gln	Leu	Leu	Ser	Glu	Arg	Ile	Ser	Ile	Leu	His	Pro	Glu	Gly	Tyr	145	150	155	160
Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg	Pro	Glu	165	170	175	
Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro	Ser	Asp	Asn	Leu	180	185	190	
Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu	Lys	Leu	Leu	Lys	195	200	205	
Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu	Asp	Arg	Val	Lys	210	215	220	
Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu	Glu	Asp	Leu	Arg	225	230	235	240

Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val
 245 250 255
 Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg Ala Phe
 260 265 270
 Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
 275 280 285
 Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
 290 295 300
 Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu
 305 310 315 320
 Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala
 325 330 335
 Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu
 340 345 350
 Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val
 355 360 365
 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn
 370 375 380
 Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu
 385 390 395 400
 Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu
 405 410 415
 Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu
 420 425 430
 Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
 435 440 445
 Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala
 450 455 460
 Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His
 465 470 475 480
 Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp
 485 490 495
 Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg
 500 505 510
 Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile
 515 520 525
 Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr
 530 535 540

Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu
545 550 555 560

His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser
565 570 575

Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln
580 585 590

Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala
595 600 605

Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
610 615 620

Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr
625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro
645 650 655

Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly
660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val
705 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg
725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala
770 775 780

Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala
785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro
805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
820 825 830

His His His His His
835

<210> 477
<211> 64
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 477
caccaccacc accaccacgt cgactagtgc tagcgctcgac tagctgcagg catgcaagct 60
tggc 64

<210> 478
<211> 64
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 478
gccaaagcttg catgcctgca gctagtcgac gctagcacta gtcgacgtgg tgggtggtggt 60
ggtg 64

<210> 479
<211> 41
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 479
caggaagcgg ccgcgctcgac atgaccatga ttacgccaaag c 41

<210> 480
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 480
gggcccgcga gggctcgactc agggcgatgg ccactacgt ga 42

<210> 481
<211> 3135
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 481

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcgc ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccc acccccagg acttccccgc gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgagggtccc cggctacgag	360
gcggaacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgca cctctaccaa ctctctccg accgcgtcgc cgtcctccac	480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag	540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg	780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc	960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca	1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttggt cctcgaggga ggggctagac ctctgtcccc gggacgacct catgctcctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg	1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgcg agaggctcca tcggaacctc	1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc	1320
ctctccccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggccctacctt	1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgc	1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac	1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc	1560

gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccccct tgggcccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctcc tctacggcat gtccgcccat 2040
aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaccct cttcggaaga aggcgctacg tgcccgcact caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctcctcgtg agggccccca agcgcggggc 2400
gaggagggtg cggctttggc caaggaggcc atggagaagg cctatccccct cgccgtgccc 2460
ctggagggtg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccacgtcg acatgaccat gattacgcca agctatttag gtgacactat agaatactca 2580
agctatgcat caagcttggt accgagctcg gatccactag taacggccgc cagtgtgctg 2640
gaattctgca gatatccatc aactggcgg ccgctcgagc atgcatctag agggcccaat 2700
tcgcccata gtgagtcgta ttacaattca ctggccgtcg ttttacaacg tcgtgactcg 2760
gaaaaccctg gcgttaccca acttaatcgc cttgcagcac atcccccttt cgccagctgg 2820
cgtaatagcg aagaggcccg caccgatcgc ccttcccaac agttgcgcag cctgaatggc 2880
gaatgggacg cgccctgtag cggcgcatca agcgcggcgg gtgtgggtgg tactgcgcagc 2940
gtgaccgcta cacttgccag cgccctagcg cccgctcctt tcgctttctt cccttccttt 3000
ctcgccacgt tcgcccgttt tccccgtcaa gctctaaatc gggggctccc tttagggttc 3060
cgatttagag ctttacggca cctcgaccgc aaaaaacttg atttgggtga tggttcacgt 3120
agtgggcat cgccc 3135

<210> 482
<211> 1045

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 482

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly

865 870 875 880
 Glu Phe Cys Arg Tyr Pro Ser His Trp Arg Pro Leu Glu His Ala Ser
 885 890 895
 Arg Gly Pro Asn Ser Pro Tyr Ser Glu Ser Tyr Tyr Asn Ser Leu Ala
 900 905 910
 Val Val Leu Gln Arg Arg Asp Trp Glu Asn Pro Gly Val Thr Gln Leu
 915 920 925
 Asn Arg Leu Ala Ala His Pro Pro Phe Ala Ser Trp Arg Asn Ser Glu
 930 935 940
 Glu Ala Arg Thr Asp Arg Pro Ser Gln Gln Leu Arg Ser Leu Asn Gly
 945 950 955 960
 Glu Trp Asp Ala Pro Cys Ser Gly Ala L : Ser Ala Ala Gly Val Val
 965 970 975
 Val Thr Arg Ser Val Thr Ala Thr Leu Ala Ser Ala Leu Ala Pro Ala
 980 985 990
 Pro Phe Ala Phe Phe Pro Ser Phe Leu Ala Thr Phe Ala Gly Phe Pro
 995 1000 1005
 Arg Gln Ala Leu Asn Arg Gly Leu Pro Leu Gly Phe Arg Phe Arg
 1010 1015 1020
 Ala Leu Arg His Leu Asp Arg Lys Lys Leu Asp Leu Gly Asp Gly
 1025 1030 1035
 Ser Arg Ser Gly Pro Ser Pro
 1040 1045

<210> 483
 <211> 36
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 483
 cgggacctcg aggcgcgtga accccaggag gtccac

36

<210> 484
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 484
 atgaattcgg ggatgctgcc cctcttttgag cccaagggcc gggtcctcct ggtggacggc

60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcctc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcgggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccg ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cttttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740

```

aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttggggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccgaggg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtcaggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tcgccatggt gaagctcttc cccgcctcc gggagatggg ggcccgcag 2340
ctcctccagg tcgccaacga gtcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400
gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

```

```

<210> 485
<211> 839
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 485

```

```

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1          5          10          15
Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20          25          30
Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35          40          45
Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50          55          60
Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65          70          75          80
Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85          90          95
Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100         105         110

```

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
420 425 430

Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
450 455 460

Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
530 535 540

Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
625 630 635 640

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Gly His His His His His His
835

<210> 486

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 486

gtggaccttc tgggctttac ccgcctcgag gccccg

36

<210> 487

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 487

cggggcctcg aggcgggtaa agcccagaag gtccac

36

<210> 488

<211> 842

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 488

```

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
20          25          30

Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
35          40          45

Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
50          55          60

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
65          70          75          80

Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85          90          95

Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
100         105         110

Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
115         120         125

Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
130         135         140

Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
145         150         155         160

Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
165         170         175

Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
180         185         190

Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
195         200         205

Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
210         215         220

Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
225         230         235         240

Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
245         250         255

Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
260         265         270

Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
275         280         285

Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro

```

290					295					300					
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Leu	Leu	Ser	Arg	Lys	Glu	Pro
305					310					315					320
Met	Trp	Ala	Glu	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Ser	Gly	Gly	Arg	Val
				325					330					335	
His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val
			340					345					350		
Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly
		355					360					365			
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu
	370					375					380				
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly
385						390					395				400
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu
				405					410					415	
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp
			420					425					430		
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met
			435				440					445			
Glu	Ala	Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser
	450					455					460				
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg
465				470						475				480	
Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg
				485				490					495		
Val	Leu	Phe	Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu	Lys	Lys	Thr	Lys	Lys
			500					505					510		
Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu
		515					520					525			
Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys
		530				535					540				
Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg
545				550						555				560	
Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly
			565					570					575		
Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr
			580					585					590		
Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp

595					600					605						
Ala	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	
610					615					620						
His	Leu	Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys	
625					630					635					640	
Asp	Ile	His	Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu	
645					650					655						
Ala	Val	Asp	Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	
660					665					670						
Val	Leu	Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	
675					680					685						
Pro	Tyr	Glu	Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	
690					695					700						
Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	
705					710					715					720	
Arg	Gly	Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	
725					730					735						
Leu	Asn	Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	
740					745					750						
Phe	Asn	Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	
755					760					765						
Met	Val	Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu	
770					775					780						
Leu	Gln	Val	Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala	
785					790					795					800	
Glu	Glu	Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	
805					810					815						
Leu	Ala	Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu	
820					825					830						
Ser	Ala	Lys	Gly	His	His	His	His	His	His							
835					840											

<210> 489
 <211> 24
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 489
 tttaccgcgcc tcgaggtgcc gggc

<210> 490
 <211> 36
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 490
 cggcacctcg aggcgggtaa agcccaaaag gtccac

36

<210> 491
 <211> 838
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 491

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60

Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val
 100 105 110

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu
 130 135 140

Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr
 145 150 155 160

Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser
 165 170 175

Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg
 195 200 205
 Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys
 210 215 220
 Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys
 225 230 235 240
 Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Gln Val
 245 250 255
 Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe
 260 265 270
 Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
 275 280 285
 Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
 290 295 300
 Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu
 305 310 315 320
 Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala
 325 330 335
 Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu
 340 345 350
 Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val
 355 360 365
 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn
 370 375 380
 Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu
 385 390 395 400
 Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu
 405 410 415
 Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu
 420 425 430
 Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
 435 440 445
 Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala
 450 455 460
 Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His
 465 470 475 480

Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp
485 490 495

Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg
500 505 510

Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile
515 520 525

Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr
530 535 540

Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu
545 550 555 560

His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser
565 570 575

Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln
580 585 590

Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala
595 600 605

Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
610 615 620

Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr
625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro
645 650 655

Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly
660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val
705 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg
725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala
770 775 780

Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala
785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro
805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
820 825 830

His His His His His His
835

<210> 492
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 492
atcgtggtct ttgacgccga ggccccctcc ttcc

34

<210> 493
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 493
ggaaggaggg ggcctcggcg tcaaagacca cgat

34

<210> 494
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 494

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800
 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Gly His His His His His His
 835 840

<210> 495
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 495
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag 120
 ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
 aaggagctgg tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
 gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggccc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccc ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttccgcct tgaagaagac gaagaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160

gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
 ctcacgaagc tcgccatggt gaagctcttc ccccgctcc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggagggtg 2400
 gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggagggtg 2460
 gaggtgggga tgggggagga ctggctttcc gcccaagggtc accaccacca ccaccac 2517

<210> 496
 <211> 839
 <212> PPT
 <213> Artificial

<220>
 <223> Synthetic

<400> 496

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
 420 425 430
 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460
 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
530 535 540

Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
625 630 635 640

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Gly His His His His His His
835

<210> 497

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 497

```

atgaattcca cccactttt tgacctggag gaacccccca agcgggtgct tctggtggac      60
ggccaccacc tggcctaccg caccttctat gccctgagcc tcaccacctc ccgggggggag      120
ccggtgcaga tggctctacgg ctctgcccgg agcctcctca aggccttgaa ggaggacgga      180
caggcgggtg tctgtgtctt tgacgccgag gccccctect tccgccacga ggcctacgag      240
gcctacaagg cgggcccgggc cccaccccg gaggacttcc cccgccagct cgccttggtc      300
aagcggctgg tggaccttct gggcctggtc cgcctcgagg ccccggggta cgaggcggac      360
gacgtcctgg gcacctggc caagaaggcc gaaagggagg ggatggaggt gcgcatactc      420
acgggagacc gggacttctt ccagctcctc tccgagaagg tctcggtcct cctgccggac      480
gggacctggt tcaccccaaa ggacgtccag gagaagtacg ggggtgcccc ggagcgctgg      540
gtggacttcc gcgcctcacc gggggaccgc tcggacaaca tccccggggt ggcggggata      600
ggggagaaga ccgcccttcg actcctcgca gagtggggga gcgtggaaaa cctcctgaag      660
aacctggacc gggtaaagcc ggactcgctc cggcgcaaga tagaggcgca cctcgaggac      720
ctccacctct ccttagacct ggcccgcac cgcaccgacc tccccctgga ggtggacttt      780
aaggccctgc gccgcaggac ccccgacctg gagggcctga gggccttttt ggaggagctg      840
gagttcggaa gcctcctcca cgagttcggc ctctggggag gggagaagcc ccgggaggag      900
gccccctggc ccccgcccga aggggccttc gtgggcttcc tcctttcccg caaggagccc      960
atgtgggcgg agcttctggc cctggcggcg gcctcgggcg gccgcgtgca ccgggcagca     1020
gaccttctgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc     1080

```


gccgtcttgg cctcgaggga ggggctagac ctctgtgccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgccc ccaccggggc ctctctctcg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggeccctt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgtc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacaccgc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctttcca ggagggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgggcaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgcact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctctctgg agggccccc agcgcggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 498

<211> 842

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 498

Met Asn Ser Thr Pro Leu Phe Asp Leu Glu Glu Pro Pro Lys Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Tyr Ala Leu
 20 25 30
 Ser Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe
 35 40 45
 Ala Arg Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Gln Ala Val Val
 50 55 60
 Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Glu
 65 70 75 80
 Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg Leu
 100 105 110
 Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala Lys
 115 120 125
 Lys Ala Glu Arg Glu Gly Met Glu Val Arg Ile Leu Thr Gly Asp Arg
 130 135 140
 Asp Phe Phe Gln Leu Leu Ser Glu Lys Val Ser Val Leu Leu Pro Asp
 145 150 155 160
 Gly Thr Leu Val Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly Val Pro
 165 170 175
 Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg Ser Asp
 180 185 190
 Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu Arg Leu
 195 200 205
 Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu Glu Asp
 225 230 235 240
 Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285

Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ser Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800
 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Gly His His His His His His
 835 840

<210> 499
 <211> 2514
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 499

atgaattccc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcccacca ccagccgcgg ggagccggtc 120
caggcgggtgt acgggttttg caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
gtgatcgtgg tctttgacgc cgaggccccc tccttcgcc accagacctt cgaggcctac 240
aaggcggggc gggctccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcac cctcaccgcg 420
gaccgggacc tttaccagct tctttcggag cgaatctcca tccttcaccc ggaggggttac 480
ctgatcacc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540
taccgggcct tggccgggga cccttcgcac aacatccccg gcgtgaaggg catcggggag 600
aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660
gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720
ctatccctgg agctatcccc ggtgcacacg gacttgctcc ttcaggtgga cttcgcccgg 780
cgccgggagc cggaccggga ggggcttaag gccttttttg agaggctgga gttcggaagc 840
ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg 900
ccccccgagg gagccttcgt ggggtacgtt ctttccgcc ccgagcccat gtgggcggag 960
cttaacgcct tggccgccgc ctggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020
gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctgc cgtcttggcc 1080
tcgagggagg ggctagacct cgtgcccggg gacgaccca tgcctcctgc ctacctctg 1140
gaccttcga acaccacccc cgagggggtg gcgcggcgt acggggggga gtggacggag 1200
gacgcgcgcc accgggcctt cctctcgag aggetccatc ggaacctcct taagcgcctc 1260
gagggggagg agaagctcct ttggctctac cacgaggtgg aaaagccctt ctcccgggtc 1320
ctggcccata tggaggccac cggggtacgg cgggacgtgg cctaccttca ggccctttcc 1380
ctggagcttg cggagyagat ccgccgcctc gaggaggagg tcttcgcctt ggccggccac 1440
cccttcaacc tcaactcccc ggaccagctg gaaagggtgc tctttgacga gcttaggctt 1500
cccgcttga agaagacgaa gaagacaggc aagcgctcca ccagcgccgc ggtgctggag 1560
gccctacggg agggccaccc catcgtggag aagatcctcc agcaccggga gctcaccaag 1620
ctcaagaaca cctacgtgga cccctccca agcctcgtcc acccgaggac gggccgcctc 1680

```

cacacccgct tcaaccagac ggccacggcc acggggaggc ttagtagctc cgaccccaac 1740
ctgcagaaca tccccgtccg caccctcttg ggccagagga tccgcccggc cttcgtggcc 1800
gaggcggggtt gggcggttgg ggccctggac tatagccaga tagagctccg cgtcctcgcc 1860
cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc 1920
cagaccgcaa gctggatggt cggcgctccc ccggaggccg tggaccccct gatgcgccgg 1980
gcggccaaga cggatgaactt cggcgctctc tacggcatgt ccgcccatag gctctcccag 2040
gagcttgcca tcccctacga ggaggcgggt gcctttatag agcgctactt ccaaagcttc 2100
cccaagggtgc gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160
gaaaccctct tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2220
agggaggccg cggagcgcat ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2280
atgaagctcg ccatggtgaa gctcttcccc cgcctcggg agatgggggc ccgcatgctc 2340
ctccaggtcg ccaacgagct cctcctggag gcccccaag cgcgggccga ggaggtggcg 2400
gctttggcca aggaggccat ggagaaggcc tatcccctcg ccgtgcccct ggaggtggag 2460
gtgggggatgg gggaggactg gctttccgcc aagggtcacc accaccacca ccac 2514

```

<210> 500
 <211> 838
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 500

```

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
1          5          10          15
Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
20          25          30
Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
35          40          45
Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
50          55          60
Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
65          70          75          80
Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
85          90          95

```

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Lys Pro Ser
 165 170 175
 Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys Leu Ile Arg
 195 200 205
 Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu Glu Gln Val Lys
 210 215 220
 Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met Glu Asp Leu Lys
 225 230 235 240
 Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu Leu Leu Gln Val
 245 250 255
 Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe
 260 265 270
 Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu
 275 280 285
 Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly
 290 295 300
 Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu
 305 310 315 320
 Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala
 325 330 335
 Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu
 340 345 350
 Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val
 355 360 365
 Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn
 370 375 380
 Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu
 385 390 395 400

Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu
405 410 415

Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu
420 425 430

Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly
435 440 445

Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala
450 455 460

Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His
465 470 475 480

Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp
485 490 495

Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg
500 505 510

Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile
515 520 525

Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr
530 535 540

Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu
545 550 555 560

His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser
565 570 575

Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln
580 585 590

Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala
595 600 605

Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly
610 615 620

Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr
625 630 635 640

Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro
645 650 655

Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly
660 665 670

Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
675 680 685

Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg
690 695 700

Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val
705 710 715 720

Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg
725 730 735

Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro
740 745 750

Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu
755 760 765

Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala
770 775 780

Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala
785 790 795 800

Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro
805 810 815

Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
820 825 830

His His His His His His
835

<210> 501
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 501
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccycac ctccacgcc ctgaagggcc tcaccaccag ccggggggag 120
ccggtgcagg cggctctacgg ctccgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcacccgggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc tccccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660

aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agccccgacc ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccccctc ccaagcctcg tccaccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggcttcc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccggagg ccgtggacce cctgatgcgc 1980
cgggcgcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tcgcatggt gaagctcttc cccgcctcc gggagatggg ggcccgcag 2340

ctcctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400
 gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 502
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 502

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu	1	5	10	15
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys	20	25	30	
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe	35	40	45	
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile	50	55	60	
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly	65	70	75	80
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	85	90	95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu	100	105	110	
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys	115	120	125	
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys	130	135	140	
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu	145	150	155	160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg	165	170	175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp	180	185	190	
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu	195	200	205	
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg				

210	215	220
Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu 225 230 235 240		
Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu 245 250 255		
Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala 260 265 270		
Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu 275 280 285		
Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu 290 295 300		
Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala 305 310 315 320		
Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala 325 330 335		
Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu 340 345 350		
Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu 355 360 365		
Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser 370 375 380		
Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr 385 390 395 400		
Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn 405 410 415		
Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His 420 425 430		
Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr 435 440 445		
Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu 450 455 460		
Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly 465 470 475 480		
His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe 485 490 495		
Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys 500 505 510		
Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro		

515					520					525					
Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Asn
530					535					540					
Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg	Thr	Gly	Arg
545					550					555					560
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser
				565					570					575	
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly
			580					585					590		
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp	Ala	Leu	Val
		595					600					605			
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser
		610					615					620			
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys	Asp	Ile	His
625					630					635					640
Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu	Ala	Val	Asp
				645					650					655	
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	Val	Leu	Tyr
			660					665					670		
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu
		675					680					685			
Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val
		690					695					700			
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	Arg	Gly	Tyr
705					710					715					720
Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Asn	Ala
				725					730					735	
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met
			740					745					750		
Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val	Lys
		755					760					765			
Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val
		770					775					780			
Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala	Glu	Glu	Val
785					790					795					800
Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala	Val
			805						810					815	
Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu	Ser	Ala	Lys

	820	825	830
Gly His His His His His His			
835			
<210>	503		
<211>	34		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	503		34
atcgtggtct ttgacgccga ggccccctcc ttcc			
<210>	504		
<211>	34		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	504		34
ggaaggaggg ggcctcggcg tcaaagacca cgat			
<210>	505		
<211>	2520		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	505		60
atgaattcgg aggcgatgct gcccctcttt gagcccaagg gccgggtcct cctggtggac			
ggccaccacc tggcctaccg caccttccac gccctgaagg gcctcaccac cagccggggg 120			
gagccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct caaggaggac 180			
ggggacgcgg tgatcgtggt ctttgacgcc gaggccccct ccttccgcca cgaggcctac 240			
gggggggtaca aggcggggcg ggcccccaag ccggaggact ttccccggca actcgcctc 300			
atcaaggagc tgggtggacct cctgggggttc acgcgcctcg aggtcccggg ctacgaggcg 360			
gacgacgtcc tggccagcct ggccaagaag gcggaaaagg agggctacga ggtccgcac 420			
ctcaccgcgg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc 480			
gaggggtacc tcatcacccc ggcctggcct tgggaaaagt acggcctgag gcccgaccag 540			
tggggccgact accggggcct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600			

atcggggaga agacggcgag gaagcttctg gaggagtggg ggagcctgga agccctcctc 660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat 720
ctgaagctct cctgggacct ggccaagggtg cgcaccgacc tgcccttgga ggtggacttc 780
gccaaaaggc gggagcccga ccgggagagg cttagggcct ttctggagag gcttgagttt 840
ggcagcctcc tccacgagtt cggccttctg gaaagcccca aggccttgga ggaggcccc 900
tgccccccgc cggaaggggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960
gccgatcttc tggccctggc cgcgcaccagg ggcggccgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgccctac 1140
ctcctggacc cttcgaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcgga cctccttaag 1260
cgcctcgagg gggaggagaa gctccttttg ctctaccacg aggtggaaaa gccctctctc 1320
cgggtcctgg cccatatgga ggccaccggg gtacggcggg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccaccctc tcaacctcaa ctcccgggac cagctggaaa ggggtgctctt tgacgagctt 1500
aggcttcccg ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgcgcgggtg 1560
ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctcccaagcc tcgtccaccc gaggacgggc 1680
cgcctccaca cccgcttcaa ccagacgggc acggccacgg ggaggcttag tagctccgac 1740
cccaacctgc agaacatccc cgtccgcacc cccttgggccc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcgcaccac tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacalc 1920
cacaccaga ccgcaagctg gatgttcggc gtcccccccg aggccttgga cccctgatg 1980
cgccggggcg ccaagacggt gaacttcggc gtccctctac gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160
tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccc acctcaacgc ccgggtgaag 2220
agcgtcaggg aggcgcggga gcgcatggcc ttcaacatgc ccgtccaggg caccgcccgc 2280

gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgcc 2340
 atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
 gtggcggcctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460
 gtggagggtgg ggatggggga ggactggcctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 506
 <211> 840
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 506

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val
 50 55 60
 Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr
 65 70 75 80
 Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg
 85 90 95
 Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg
 100 105 110
 Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala
 115 120 125
 Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp
 130 135 140
 Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro
 145 150 155 160
 Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu
 165 170 175
 Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser
 180 185 190
 Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys
 195 200 205

Leu Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp
210 215 220

Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp
225 230 235 240

Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu
245 250 255

Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg
260 265 270

Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly
275 280 285

Leu Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro
290 295 300

Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp
305 310 315 320

Ala Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg
325 330 335

Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly
340 345 350

Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp
355 360 365

Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro
370 375 380

Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp
385 390 395 400

Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg
405 410 415

Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr
420 425 430

His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
435 440 445

Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu
450 455 460

Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala
465 470 475 480

Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
485 490 495

Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly
500 505 510

Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His
 515 520 525
 Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys
 530 535 540
 Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly
 545 550 555 560
 Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
 565 570 575
 Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
 580 585 590
 Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu
 595 600 605
 Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
 610 615 620
 Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile
 625 630 635 640
 His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val
 645 650 655
 Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
 660 665 670
 Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr
 675 680 685
 Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
 690 695 700
 Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly
 705 710 715 720
 Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn
 725 730 735
 Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
 740 745 750
 Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val
 755 760 765
 Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln
 770 775 780
 Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu
 785 790 795 800
 Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala
 805 810 815

Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala
820 825 830

Lys Gly His His His His His His
835 840

<210> 507

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 507

cagaccatga attcggaggc gatgctgccc ctcttt

36

<210> 508

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 508

aaagaggggc agcatcgcct ccgaattcat ggtctg

36

<210> 509

<211> 2517

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 509

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc

60

caccacctgg cctaccgca cttctttgcc ctgaagggcc tcaccaccag ccggggggag

120

ccggtgcagg cggctctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg

180

gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg

240

gggtacaagg cgggccgggc cccacgcgcg gaggactttc cccggcaact cgccctcatc

300

aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac

360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc

420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag

480

gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg

540

gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatc 600
 ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
 aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
 aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
 aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagagggt tgagtttggc 840
 agcctcctcc acgagtccgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
 ccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
 gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
 gcggggctaa aggacctcaa ggagggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
 ctggaccctt cgaacaccac ccccgaggag gtggcgcggc gctacggggg ggagtggacg 1200
 gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
 ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
 gtcttgccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
 tccctggagc ttgcggagga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc 1440
 cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
 cttcccgcct tgaagaagac gaagaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
 gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
 aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggcgc 1680
 ctccacacc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
 aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800
 gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcc 1860
 gccacctct ccggggacga aaacctgatc agggcttcc aggaggggaa ggacatccac 1920
 acccagaccg caagctggat gttcggcgtc ccccggagg ccgtggaccc cctgatgcgc 1980
 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
 caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttcccgaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgtac gtgcccgcacc tcaacgcccg ggtgaagagc 2220

gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
 ctcatgaagc tcgccatggt gaagctcttc ccccgccctcc gggagatggg ggcccgcacg 2340
 ctccctccagg tcgccaacga gctcctcctg gagggccccc aagcgcgggc cgaggaggtg 2400
 gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 510
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 510

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu	1	5	10	15
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu	Lys	20	25	30	
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe	35	40	45	
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile	50	55	60	
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly	65	70	75	80
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	85	90	95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu	100	105	110	
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys	115	120	125	
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys	130	135	140	
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu	145	150	155	160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg	165	170	175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp	180	185	190	

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
 420 425 430
 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460
 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495

Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525

Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540

Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590

Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640

Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685

Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Gly His His His His His His
835

<210> 511
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 511 33
gcctaccgca ccttctttgc cctgaagggc ctc

<210> 512
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 512 33
gaggcccttc agggcaaaga aggtgcggta ggc

<210> 513
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 513 60
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcag agaggacggg 180
gacgcgggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgcgcg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgcccaga aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480

gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggacctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg ccacccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggagge caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgt ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160

gtggaaaccc tcttcggaag aaggcgctac gtgcccgcacc tcaacgcccg ggtgaagagc 2220
 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccgc 2280
 ctcatgaagc tcgcatggt gaagctcttc cccgcctcc gggagatggg ggcccgcagc 2340
 ctctccagg tcgccaacga gtcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400
 gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 514
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 514

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Arg	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70				75					80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
			85					90						95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
		100						105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
	130					135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145					150				155					160	
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
			165					170						175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp

180					185					190					
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu
	195						200					205			
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
	210					215					220				
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
	225					230					235				240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu
				245					250					255	
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala
			260					265					270		
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu
		275					280					285			
Leu	Glu	Ser	Pro	Lys	Ala	Leu	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu
	290					295					300				
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala
	305					310					315				320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala
				325					330					335	
Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val	Arg	Gly	Leu
			340					345					350		
Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly	Leu	Asp	Leu
		355					360					365			
Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser
		370				375					380				
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
	385					390					395				400
Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	His	Arg	Asn
				405					410					415	
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp	Leu	Tyr	His
			420					425					430		
Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	Glu	Ala	Thr
			435				440					445			
Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser	Leu	Glu	Leu
	450					455					460				
Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg	Leu	Ala	Gly
	465					470					475				480
His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe

485										490					495				
Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu	Lys	Lys	Thr	Lys	Lys	Thr	Gly	Lys				
			500					505					510						
Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro				
		515					520					525							
Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Asn				
		530				535					540								
Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg	Thr	Gly	Arg				
545					550					555					560				
Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser				
				565					570					575					
Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly				
			580					585					590						
Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp	Ala	Leu	Val				
		595					600					605							
Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser				
		610				615					620								
Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys	Asp	Ile	His				
625					630					635				640					
Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu	Ala	Val	Asp				
				645					650					655					
Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	Val	Leu	Tyr				
			660					665					670						
Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu				
		675					680					685							
Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val				
		690				695					700								
Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	Arg	Gly	Tyr				
705					710					715				720					
Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Asn	Ala				
				725					730					735					
Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met				
			740					745					750						
Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val	Lys				
			755				760					765							
Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val				
		770				775					780								
Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala	Glu	Glu	Val				

785	790	795	800
Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val			
	805	810	815
Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys			
	820	825	830
Gly His His His His His His			
	835		
<210>	515		
<211>	33		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	515		
ctcctcaagg ccctcagaga ggacggggac gcg			33
<210>	516		
<211>	33		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	516		
cgcgtccccg tcctctctga gggccttgag gag			33
<210>	517		
<211>	2517		
<212>	DNA		
<213>	Artificial		
<220>			
<223>	Synthetic		
<400>	517		
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc			60
caccacctgg cctaccgac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag			120
ccggtgcagg cgggtctacgg cttegccaag agcctcctca aggccctcaa ggaggacggg			180
gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg			240
gggtacaagg cgggcccgggc cccacgccg gaggactttc cccggcaact cgcctcatc			300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac			360
gacgtcctgg ccacctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc			420

accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcmc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggccctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcgaggga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggagggcca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggtctctc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100

ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccgcacc tcaacgcccg ggtgaagagc 2220
 gtcagggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccgc 2280
 ctcatgaagc tcgcatggt gaagctcttc ccccgctcc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggaggtg 2400
 gcggcttttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 518
 <211> 39
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 518

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65				70					75					80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
			85					90						95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
		130				135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145				150					155					160	
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
			165					170						175	

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225 230 235 240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
245 250 255

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
260 265 270

Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
275 280 285

Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
290 295 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
305 310 315 320

Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
325 330 335

Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
340 345 350

Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
355 360 365

Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
370 375 380

Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
385 390 395 400

Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
420 425 430

Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
450 455 460

Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540
 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640
 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765
 Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Gly His His His His His His
835

<210> 519
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 519
gacgacgtcc tggccaccct ggccaagaag gcg 33

<210> 520
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 520
cgccttcttg gccagggtgg ccaggacgtc gtc 33

<210> 521
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 521
atgaattcgg ggatgtgccc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc ccccacgccg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360

gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccgggggt caagggcatc 600
ggggagaaga cggcgctcaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccttgagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccttgaggga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccttggcgcg cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggacctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccc cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccttgagc ttgcggagga gatccgcgcg ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacctcctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgaccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgcgc ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040

caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccc ggtgaagagc 2220
 gtcaggagg cgcgggagcg catggccttc aacatgcccc tccagggcac cgccgcccac 2280
 ctcatgaagc tcgccatggt gaagctcttc ccccgctcc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gagggccccc aagcgcgggc cgaggaggtg 2400
 gcggccttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
 gaggtgggga tgggggagga ctggccttcc gccaaagggtc accaccacca ccaccac 2517

<210> 522
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 522

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70				75					80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
			85					90					95		
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
	130					135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145					150				155					160	

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
 420 425 430
 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460

Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540
 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640
 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750
 Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
 755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
 770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
 785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
 805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
 820 825 830

Gly His His His His His His
 835

<210> 523
 <211> 33
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 523
 ggggagaaga cggcgctcaa gcttctggag gag 33

<210> 524
 <211> 33
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 524
 ctctccaga agcttgagcg ccgtcttctc ccc 33

<210> 525
 <211> 2517
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 525
 atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
 caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
 ccggtgcagg cggctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
 gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240
 ggggtacaagg cgggcccgggc cccacgcgg gaggacttct cccggcaact cgccctcatc 300

aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggctttgg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc tcccgggggt caagggcata 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggaggggctt aaggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgccgc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cttttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca cccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgcgc ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccggagg ccgtggaccc cctgatgcgc 1980

cgggcgccca agacgggtgaa cttcggcgctc ctctacggca tgtccgcccc taggctctcc 2040
 caggagcttg ccatcccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccgcacc tcaacgcccc ggtgaagagc 2220
 gtcaggaggc ccgcggagcg catggccttc aacatgcccc tccagggcac cgccgcccgc 2280
 ctcatgaagc tcgccatggt gaagctcttc cccgcctcc gggagatggg ggcccgcctg 2340
 ctctccagg tcgccaacga gctcctcctg gagggccccc aagcgcgggc cgaggagggtg 2400
 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggagggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccagggtc accaccacca ccaccac 2517

<210> 526
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 526

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75				80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
				85					90					95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
		115					120					125			
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
	130					135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu

145		150		155		160
Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg						
		165		170		175
Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp						
		180		185		190
Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu						
		195		200		205
Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg						
		210		215		220
Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu						
		225		230		235
Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu						
		245		250		255
Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala						
		260		265		270
Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu						
		275		280		285
Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu						
		290		295		300
Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala						
		305		310		315
Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala						
		325		330		335
Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu						
		340		345		350
Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu						
		355		360		365
Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser						
		370		375		380
Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr						
		385		390		395
Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn						
		405		410		415
Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His						
		420		425		430
Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr						
		435		440		445
Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu						

450	455	460
Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly		
465	470	475 480
His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe		
	485	490 495
Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys		
	500	505 510
Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro		
	515	520 525
Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn		
	530	535 540
Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg		
545	550	555 560
Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser		
	565	570 575
Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly		
	580	585 590
Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val		
	595	600 605
Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser		
	610	615 620
Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His		
625	630	635 640
Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp		
	645	650 655
Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr		
	660	665 670
Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu		
	675	680 685
Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val		
	690	695 700
Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr		
705	710	715 720
Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala		
	725	730 735
Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met		
	740	745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys		

755 760 765
Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780
Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800
Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815
Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830
Gly His His His His His His
835

<210> 527
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 527
gagcccgacc gggaggggct taaggccttt ctggagagg

39

<210> 528
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 528
cctctccaga aaggccttaa gcccctcccg gtcgggctc

39

<210> 529
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 529
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cggcttacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccgag gccccctcct tccgccacga ggcctacggg 240

gggtacaagg cgggccgggc cccacgccc gaggaacttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggttcacg cgctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccagag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcac 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatcccg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggcgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagagggt tgagtttggc 840
agcctcctcc acgagttcgg ccttctggga ggggagaagc cccgggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcggggctaa aggacctcaa ggaggtcccg ggccctcctc ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgccctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccgggyta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggcccaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgac agggctctcc aggaggggaa ggacatccac 1920

acccagaccg caagctggat gttcggcgtc cccccggagg ccgtggaccc cctgatgcgc 1980
 cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgccca taggctctcc 2040
 caggagcttg ccattccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttcccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccgcacc tcaacgcccg ggtgaagagc 2220
 gtcaggaggagg ccgcggagcg catggccttc aacatgcccg tccaggggcac cgccgcccgc 2280
 ctcatgaagc tcgccatggt gaagctcttc ccccgccctcc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gagggccccc aagcgcgggc cgaggagggtg 2400
 gcggcctttgg ccaaggaggc catggagaag gcctatcccc tcgcccgtgcc cctggagggtg 2460
 gaggtgggga tgggggagga ctggccttcc gccaaagggtc accaccacca ccaccac 2517

<210> 530
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 530

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140

Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu	145	150	155	160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg	165	170	175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp	180	185	190	
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu	195	200	205	
Leu	Glu	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg	210	215	220	
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu	225	230	235	240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu	245	250	255	
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala	260	265	270	
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu	275	280	285	
Leu	Gly	Gly	Glu	Lys	Pro	Arg	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu	290	295	300	
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala	305	310	315	320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala	325	330	335	
Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val	Arg	Gly	Leu	340	345	350	
Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly	Leu	Asp	Leu	355	360	365	
Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser	370	375	380	
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr	385	390	395	400
Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	His	Arg	Asn	405	410	415	
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp	Leu	Tyr	His	420	425	430	
Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	Glu	Ala	Thr	435	440	445	

Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460
 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540
 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640
 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
 675 680 685
 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735
 Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
 740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800

Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Gly His His His His His His
835

<210> 531
<211> 54
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 531
cacgagttcg gccttctggg aggggagaag ccccgaggagg agggcccttg gccc 54

<210> 532
<211> 54
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 532
gggccagggg gcctcctccc ggggcttctc cctcccaga aggccgaact cgtg 54

<210> 533
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 533
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120

ccggtgcagg cggtctacgg cttcgccaag agcctcctca aggcctcaa ggaggacggg 180

gacgcggtga tcgtggtctt tgacgccgag gcccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgccg gaggactttc cccggcaact cgccctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccatat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggagggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagagggt tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc ctgcaggggc ggccgcgtgc accgggcagc agacccttg 1020
gcggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcggagga gatccgcgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccaccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttgggccaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860

gcccacctct ccggggacga aaacctgata aggggtcttcc aggaggggaa ggacatccac 1920
 acccagaccg caagctggat gtteggcgctc cccccggagg ccgtggaccc cctgatgcgc 1980
 cgggcggcca agacggtgaa ctteggcgctc ctctacggca tgtccgcca taggctctcc 2040
 caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccagacc tcaacgcccg ggtgaagagc 2220
 gtcaggagg cgcgggagcg catggccttc aacatgcccg tcaggggcac cgccgcccagc 2280
 ctcatgaagc tcgccatggt gaagctcttc ccccgctctc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gaggcccccc aagcgcgggc cgaggagggtg 2400
 gcggctttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggagggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 534
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 534

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
			35				40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65					70					75				80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
				85					90					95	
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys
			115				120					125			

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205
 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu
 355 360 365
 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
 370 375 380
 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
 385 390 395 400
 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn
 405 410 415
 Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His
 420 425 430

Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr
 435 440 445
 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu
 450 455 460
 Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly
 465 470 475 480
 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
 485 490 495
 Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys
 500 505 510
 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
 515 520 525
 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn
 530 535 540
 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg
 545 550 555 560
 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
 565 570 575
 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
 580 585 590
 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val
 595 600 605
 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
 610 615 620
 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His
 625 630 635 640
 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp
 645 650 655
 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr
 660 665 670
 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Cys
 675 680 685
 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
 690 695 700
 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr
 705 710 715 720
 Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala
 725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765
Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780
Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800
Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815
Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830
Gly His His His His His His
835

<210> 535
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 535
ctggccctgg ccgcctgcag gggcggccgc gtg

33

<210> 536
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 536
cacgcggccg cccctgcagg cggccagggc cag

33

<210> 537
<211> 2517
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 537
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc

60

caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag

120

ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtcct tgacgccgag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggcccggc cccacgccg gaggactttc cccggcaact cgcctcatc 300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctgaag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggetgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ctttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtgc accgggcagc agaccccttg 1020
gcgggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccctgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cttttggctc taccacgagg tggaaaagcc cctctcccg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggage ttgcggagga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacacce gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800

gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
 gcccacctct ccggggacga aaacctgac agggctctcc aggaggggaa ggacatccac 1920
 acccagaccg caagctggat gttcggcgtc ccccgaggagg ccgtggaccc cctgatgcgc 1980
 cgggcgggcca agacggtgaa cttcggcgcc ctctacggca tgcccgccca taggctctcc 2040
 caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
 ttccccaagg tgcgggcctg gatagaaaag accctggagg aggggaggaa gcggggctac 2160
 gtggaaaccc tcttcggaag aaggcgctac gtgcccgaac tcaacgcccg ggtgaagagc 2220
 gtcaggaggagg ccgcggagcg catggccttc aacatgcccg tccagggcac cgccgcccac 2280
 ctcatgaagc tcgccatggt gaagctcttc ccccgccctc gggagatggg ggcccgcacg 2340
 ctctccagg tcgccaacga gctcctcctg gaggccccc aagcgcgggc cgaggagggtg 2400
 gcggcctttg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggagggtg 2460
 gaggtgggga tgggggagga ctggctttcc gccaaagggtc accaccacca ccaccac 2517

<210> 538
 <211> 839
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 538

Met	Asn	Ser	Gly	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu
1				5					10					15	
Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys
			20					25					30		
Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe
		35					40					45			
Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Asp	Ala	Val	Ile
	50					55					60				
Val	Val	Phe	Asp	Ala	Glu	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly
65				70						75				80	
Gly	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln
			85					90					95		
Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	Arg	Leu
			100					105					110		
Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Ser	Leu	Ala	Lys

115					120					125					
Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	Asp	Lys
130						135					140				
Asp	Leu	Tyr	Gln	Leu	Leu	Ser	Asp	Arg	Ile	His	Val	Leu	His	Pro	Glu
145				150						155					160
Gly	Tyr	Leu	Ile	Thr	Pro	Ala	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	Leu	Arg
				165					170					175	
Pro	Asp	Gln	Trp	Ala	Asp	Tyr	Arg	Ala	Leu	Thr	Gly	Asp	Glu	Ser	Asp
			180					185					190		
Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Arg	Lys	Leu
		195					200					205			
Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg
	210					215					220				
Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu
225					230					235					240
Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu
				245					250					255	
Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Arg	Leu	Arg	Ala
			260					265					270		
Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	Leu
	275						280					285			
Leu	Glu	Ser	Pro	Lys	Ala	Leu	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu
	290					295					300				
Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	Ala
305					310					315					320
Asp	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Arg	Gly	Gly	Arg	Val	His	Arg	Ala
				325					330					335	
Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val	Arg	Gly	Leu
			340					345					350		
Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly	Leu	Asp	Leu
	355						360					365			
Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser
	370					375					380				
Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr
385					390					395					400
Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	His	Arg	Asn
				405					410					415	
Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp	Leu	Tyr	His

564

725 730 735
Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765
Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780
Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val
785 790 795 800
Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val
805 810 815
Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830
Gly His His His His His His
835

<210> 539
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 539
ggggagaaga cggcgaggaa gcttctgaag gagtggggga gc

42

<210> 540
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 540
gctccccac tccttcagaa gcttcctcgc cgtcttctcc cc

42

<210> 541
<211> 2520
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 541
atgaattcgg aggcgatgct gcccctcttt gagcccaagg gccgggtcct cctggtggac

60

ggccaccacc tggcctaccg caccttcttt gccctgaagg gcctcaccac cagccggggg 120
gagccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct cagagaggac 180
ggggacgcgg tgatcgtggt ctttgacgcc gagggccctt ccttccgcca cgaggcctac 240
gggggggtaca aggcggggccg ggccccacg ccggaggact ttccccggca actcgcctc 300
atcaaggagc tgggtggacct cctgggggttc acgcgcctcg aggtcccggg ctacgaggcg 360
gacgacgtcc tggccaccct ggccaagaag gcggaaaagg agggctacga ggtccgcac 420
ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc 480
gaggggtacc tcatcacccc ggcttggtt tgggaaaagt acggcctgag gcccgaccag 540
tgggccgact accgggcccct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600
atcggggaga agacggcgct caagcttctg gaggagtggg ggagcctgga agccctcctc 660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat 720
ctgaagctct cctgggacct ggccaagggt cgcaccgacc tgccccgga ggtggacttc 780
gccaaaaggc gggagcccga ccgggagggg cttaaggcct ttctggagag gcttgagttt 840
ggcagcctcc tccacgagtt cggccttctg ggaggggaga agccccggga ggaggcccc 900
tggccccgc cggaaggggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960
gccgatcttc tggccctggc cgcctgcagg ggcgccgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgccctac 1140
ctcctggacc cttcgaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcgga cctccttaag 1260
cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctcc 1320
cgggtcctgg cccatatgga ggccaccggg gtacggcggg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccaccct tcaacctcaa ctcccgggac cagctggaaa ggggtgctctt tgacgagctt 1500
aggcttcccg ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgccgcggtg 1560
ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctccaagcc tcgtccacce gaggacgggc 1680
cgctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740

```

cccaacctgc agaacatccc cgtccgcacc cccttggggc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
cacaccaga cgcgaagctg gatgttcggc gtcccccccg aggccgtgga cccctgatg 1980
cgccgggagg ccaagacggt gaacttcggc gtccctctac gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160
tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220
agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280
gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggccgc 2340
atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
gtggcggcct tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460
gtggaggtgg ggatggggga ggactggcct tccgccaagg gtcaccacca ccaccaccac 2520

```

```

<210> 542
<211> 840
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 542

```

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15

```

```

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20          25          30

```

```

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35          40          45

```

```

Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val
50          55          60

```

```

Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr
65          70          75          80

```

```

Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg
85          90          95

```

```

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg
100         105         110

```

Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala
 115 120 125
 Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp
 130 135 140
 Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro
 145 150 155 160
 Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu
 165 170 175
 Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser
 180 185 190
 Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys
 195 200 205
 Leu Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp
 210 215 220
 Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp
 225 230 235 240
 Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys
 260 265 270
 Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly
 275 280 285
 Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro Pro Pro
 290 295 300
 Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp
 305 310 315 320
 Ala Asp Leu Leu Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg
 325 330 335
 Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly
 340 345 350
 Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp
 355 360 365
 Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro
 370 375 380
 Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp
 385 390 395 400
 Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg
 405 410 415

Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr
 420 425 430
 His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
 435 440 445
 Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu
 450 455 460
 Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala
 465 470 475 480
 Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
 485 490 495
 Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly
 500 505 510
 Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His
 515 520 525
 Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys
 530 535 540
 Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly
 545 550 555 560
 Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
 565 570 575
 Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
 580 585 590
 Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu
 595 600 605
 Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
 610 615 620
 Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile
 625 630 635 640
 His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val
 645 650 655
 Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
 660 665 670
 Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr
 675 680 685
 Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
 690 695 700
 Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly
 705 710 715 720

Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn
725 730 735

Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
740 745 750

Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val
755 760 765

Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln
770 775 780

Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu
785 790 795 800

Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala
805 810 815

Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala
820 825 830

Lys Gly His His His His His His
835 840

<210> 543

<211> 2520

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 543

```

atgaattcgg aggcgatgct gcccctcttt gagcccaagg gccgggtcct cctggtggac      60
ggccaccacc tggcctaccg caccttcttt gccctgaagg gcctcaccac cagccggggg      120
gagccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct cagagaggac      180
ggggacgcgg tgatcgtggt ctttgacgcc gagggcccct ccttccgcca cgaggcctac      240
gggggggtaca aggcgggccc ggccccacg ccggaggact ttccccggca actcgccttc      300
atcaaggagc tgggtggacct cctgggggttc acgcgcctcg aggtcccggg ctacgaggcg      360
gacgacgtcc tggccaccct ggccaagaag gcggaaaagg agggctacga ggtccgcac      420
ctcaccgccc acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc      480
gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag      540
tgggcccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc      600
atcggggaga agacggcgct caagcttctg aaggagtggg ggagcctgga agccctcctc      660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat      720

```


ctgaagctct cctgggacct ggccaaggtg cgcaccgacc tgcccctgga ggtggacttc 780
gccaaaaggc gggagcccga cggggagggg ctttaaggcct ttctggagag gcttgagttt 840
ggcagcctcc tccacgagtt cggccttctg ggaggggaga agccccggga ggaggcccc 900
tggccccgc cggaaggggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960
gccgatcttc tggccttggc cgcctgcagg ggcggccgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgccctac 1140
ctcctggacc cttcgaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcgga cctccttaag 1260
cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctctc 1320
cgggtcctgg cccatatgga ggcccccggg gtacggcggg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccaccct tcaacctcaa ctcccgggac cagctggaaa ggggtgctctt tgacgagctt 1500
aggcttcccg ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgcgcgggtg 1560
ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctcccaagcc tcgtccaccg gaggacgggc 1680
cgcctccaca ccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740
cccaacctgc agaacatccc cgtccgcacc cccttggggc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcggccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
cacaccaga ccgcaagctg gatgttcggc gtccccccgg aggcgtgga cccctgatg 1980
cgccgggcgg ccaagacggt gaacttcggc gtctctacg gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160
tacgtggaaa cctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220
aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280
gacctcatga agctcgccat ggtgaagctc ttccccgcc tccgggagat gggggcccgc 2340
atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
gtggcggtt tggccaagga ggccatggag aaggcctatc ccctcgccgt gccctggag 2460

gtggaggtgg ggatggggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 544

<211> 840

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 544

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val
50 55 60

Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr
65 70 75 80

Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg
85 90 95

Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg
100 105 110

Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala
115 120 125

Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp
130 135 140

Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro
145 150 155 160

Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu
165 170 175

Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser
180 185 190

Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys
195 200 205

Leu Leu Lys Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp
210 215 220

Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp

225		230		235		240
Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu						
		245		250		255
Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Leu Lys						
		260		265		270
Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly						
		275		280		285
Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro Trp Pro Pro Pro						
		290		295		300
Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp						
305		310		315		320
Ala Asp Leu Leu Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg						
		325		330		335
Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly						
		340		345		350
Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp						
		355		360		365
Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro						
		370		375		380
Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp						
385		390		395		400
Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg						
		405		410		415
Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr						
		420		425		430
His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala						
		435		440		445
Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu						
		450		455		460
Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala						
465		470		475		480
Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu						
		485		490		495
Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly						
		500		505		510
Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His						
		515		520		525
Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys						

530					535					540					
Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg	Thr	Gly
545					550					555					560
Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu
				565					570					575	
Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu
			580					585					590		
Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp	Ala	Leu
		595					600					605			
Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu
		610					615					620			
Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys	Asp	Ile
625					630					635					640
His	Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu	Ala	Val
				645					650					655	
Asp	Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	Val	Leu
			660					665					670		
Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr
		675					680					685			
Glu	Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys
		690					695					700			
Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	Arg	Gly
705							710					715			720
Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Asn
				725					730					735	
Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn
			740					745					750		
Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val
			755					760				765			
Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln
		770					775					780			
Val	Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala	Glu	Glu
785							790					795			800
Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala
			805					810						815	
Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu	Ser	Ala
			820					825					830		
Lys	Gly	His	His	His	His	His	His	His	His						

835

840

<210> 545
<211> 50
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 545
ggggagaaga cggcgctcag gcttctgaag gagtggggga gcctggaagc

50

<210> 546
<211> 50
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 546
gcttccaggc tccccactc cttcagaagc ttgagcgccg tcttctcccc

50

<210> 547
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 547
ctggtcggga cggacgcca tgaggggtgtg aag

33

<210> 548
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 548
gtccgtccc accagaat

18

<210> 549
<211> 1008
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 549
 atgggtgcgg atattggtga cctcttttgag agggaagagg tcgagcttga gtactttctca 60
 ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg 120
 cagcctgacg gtacgccgtt aaaggactca cagggcagaa tcacctctca cttttccgga 180
 atcctataca gagtctccaa catggctcgag gtgggaatca ggccggtgtt tgtattcgac 240
 ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
 gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
 caggctgcag ggaggggttga cgagtacatt gttgactccg caaagacgct ttttaagttac 420
 atggggattc cttttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480
 gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct cttcggaagc 540
 ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
 tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctggggttg 660
 acgagggagc agctcatcga catagcgatt ctggtcggga cggacgcaa tgagggtgtg 720
 aagggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tattttcagg 780
 gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttcctg 840
 aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
 atcgagttcc tgtgcgagga gcacgacttc agcagggaga gggtcgagaa ggccttgag 960
 aagctcaaag ctctgaagtc aaccaggcc acgcttgaga ggtgggttc 1008

<210> 550
 <211> 336
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 550

Met	Gly	Ala	Asp	Ile	Gly	Asp	Leu	Phe	Glu	Arg	Glu	Glu	Val	Glu	Leu
1				5				10					15		
Glu	Tyr	Phe	Ser	Gly	Lys	Lys	Ile	Ala	Val	Asp	Ala	Phe	Asn	Thr	Leu
			20				25					30			
Tyr	Gln	Phe	Ile	Ser	Ile	Ile	Arg	Gln	Pro	Asp	Gly	Thr	Pro	Leu	Lys
	35					40					45				
Asp	Ser	Gln	Gly	Arg	Ile	Thr	Ser	His	Leu	Ser	Gly	Ile	Leu	Tyr	Arg

50		55		60
Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp				
65		70		75 80
Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys		85	90	95
Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly		100	105	110
Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu		115	120	125
Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro		130	135	140
Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala		145	150	155 160
Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu		165	170	175
Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys		180	185	190
Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile		195	200	205
Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln		210	215	220
Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Ala Asn Glu Gly Val		225	230	235 240
Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly		245	250	255
Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val		260	265	270
Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr		275	280	285
Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu		290	295	300
Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu		305	310	315 320
Lys Leu Lys Ala Leu Lys Ser Thr Gln Ala Thr Leu Glu Arg Trp Phe		325	330	335

<210> 551

<211> 33

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 551

ctggtcggga cggacaggaa tgaggggtgtg aag

33

<210> 552

<211> 1008

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 552

atgggtgcgg atattggtga cctctttgag agggaagagg tcgagcttga gtacttctca 60
ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg 120
cagcctgacg gtacgccgtt aaaggactca cagggcagaa tcacctctca cctttccgga 180
atcctataca gagtctccaa catggtcgag gtgggaatca ggccggtgtt tgtattcgac 240
ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
caggctgcag ggaggggttga cgagtacatt gttgactccg caaagacgct tttaagttac 420
atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480
gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct ctccggaagc 540
ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctgggtttg 660
acgagggagc agctcatcga catagcgatt ctggtcggga cggacaggaa tgaggggtgtg 720
aagggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tatttttcagg 780
gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttcctg 840
aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
atcgagttcc tgtgcgagga gcacgacttc agcagggaga gggtcgagaa ggccttgag 960
aagctcaaag ctctgaagtc aaccaggcc acgcttgaga ggtgggttc 1008

<210> 553

<211> 336

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 553

```

Met Gly Ala Asp Ile Gly Asp Leu Phe Glu Arg Glu Glu Val Glu Leu
1           5           10           15

Glu Tyr Phe Ser Gly Lys Lys Ile Ala Val Asp Ala Phe Asn Thr Leu
20           25           30

Tyr Gln Phe Ile Ser Ile Ile Arg Gln Pro Asp Gly Thr Pro Leu Lys
35           40           45

Asp Ser Gln Gly Arg Ile Thr Ser His Leu Ser Gly Ile Leu Tyr Arg
50           55           60

Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp
65           70           75           80

Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys
85           90           95

Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly
100          105          110

Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu
115          120          125

Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro
130          135          140

Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala
145          150          155          160

Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu
165          170          175

Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys
180          185          190

Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile
195          200          205

Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
210          215          220

Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Arg Asn Glu Gly Val
225          230          235          240

Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly
245          250          255

Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val
260          265          270

Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr

```

275 280 285
Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu
290 295 300
Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu
305 310 315 320
Lys Leu Lys Ala Leu Lys Ser Thr Gln Ala Thr Leu Glu Arg Trp Phe
325 330 335

<210> 554
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 554
gaaccacctc tcaagcgtgg

20

<210> 555
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 555
acgcttgaga ggtggttcct ggaggaggcc ccctgg

36

<210> 556
<211> 1011
<212> DNA
<213> Archaeoglobus fulgidus

<400> 556
atgggtgctg atattggtga cctctttgag agggagagg tcgagcttga gtactttctca 60
ggaaagaaaa ttgccgttga tgctttcaac acgtataacc agttcatctc gataataagg 120
cagcctgacg gtacgccgtt aaaggactca cagggcagaa tcacctctca cctttccgga 180
atcctataca gagtctccaa catgggtcgag gtgggaatca ggccggtggt tgtattcgac 240
ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
caggctgcag ggagggttga cgagtacatt gttgactccg caaagacgct ttttaagttac 420
atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480

gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct cttcggaagc 540
ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctggggttg 660
acgagggagc agctcatcga catagcgatt ctggtcggga cggactacaa tgaggggtgtg 720
aaggggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tattttcagg 780
gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttcctg 840
aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
atcgagttcc tgtgcgagga gcacgacttc agcagggaga gggtcgagaa ggccttgag 960
aagctcaaag ctctgaagtc aaccaggcc acgcttgaga ggtggttctg a 1011

<210> 557
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 557
taatctgtat caggctg

17

<210> 558
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 558
atgaattccg aggcgatgct tccgctcttt gaaccctaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgc ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccagag acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctgctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540

cagtgggtgg acttccgcgc cctcgtgggg gacccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcggtcccg gggacgacct catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacggcg ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggg gctctttgac 1500
gagcttaggc tccccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg agggccctac ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctc tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgggcaa gacgggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaagt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacctt cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220

gtgaagagcg tcagggaggg cgcgagagcg atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatgggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcatgc tcctccaggt cgccaacgag ctctctctgg aggcccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 559
<211> 2643
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 559
atgggtgcgg atattggtga cctctttgag agggaagagg tcgagcttga gtactttctca 60
ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg 120
cagcctgacg gtacgccgtt aaaggactca cagggcagaa tcacctctca cctttccgga 180
atcctataca gagtctccaa catggtcgag gtgggaatca ggccggtgtt tgtattcgac 240
ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
caggctgcag ggagggttga cgagtacatt gttgactccg caaagacgct ttttaagttac 420
atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480
gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct cttcggaagc 540
ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctggggtttg 660
acgagggagc agctcatcga catagcgatt ctggtcggga cggactacaa tgagggtgtg 720
aagggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tatttttcagg 780
gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttcttg 840
aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
atcgagttcc tgtgagagga gcacgacttc agcagggaga gggtcgagaa ggccttgag 960
aagctcaaag ctctgaagtc aaccaggcc acgcttgaga ggtgggttcct ggaggaggcc 1020
ccctggcccc cgccggaagg ggccttcgtg ggcttcgtcc tctcccgccc cgagcccatg 1080

tgggcggagc ttaaagccct ggccgcctgc aggggcggcc gcgtgcaccg ggcagcagac 1140
cccttggcgg ggctaaagga cctcaaggag gtccggggcc tcctcgccaa ggacctcgcc 1200
gtcttggcct cgagggaggg gctagacctc gtgcccgggg acgaccccat gctcctcgcc 1260
tacctcctgg acccttcgaa caccaccccc gagggggtgg cgcggcgcta cgggggggag 1320
tggacggagg acgccgccca ccgggccctc ctctcggaga ggctccatcg gaacctcctt 1380
aagcgctcg agggggagga gaagctcctt tggctctacc acgaggtgga aaagcccctc 1440
tcccgggtcc tggcccatat ggaggccacc ggggtacggc gggacgtggc ctaccttcag 1500
gccctttccc tggagcttgc ggaggagatc cgccgcctcg aggaggaggt cttccgcttg 1560
gcggggccacc ccttcaacct caactcccgg gaccagctgg aaagggtgct ctttgacgag 1620
cttaggcttc ccgccttgaa gaagacgaag aagacaggca agcgtccac cagcgccgcg 1680
gtgctggagg ccctacggga ggcccacccc atcgtggaga agatcctcca gcaccgggag 1740
ctcaccaagc tcaagaacac ctacgtggac cccctcccaa gcctcgtcca cccgaggacg 1800
ggccgcctcc acaccgctt caaccagacg gccacggcca cggggagggt tagtagctcc 1860
gacccaacc tgcagaacat ccccgctcgc accccttgg gccagaggat ccgcccgggc 1920
ttcgtggccg aggcgggttg ggcgttggtg gccctggact atagccagat agagctccgc 1980
gtcctcgccc acctctcggg ggacgaaaac ctgatcaggg tcttccagga ggggaaggac 2040
atccacaccc agaccgcaag ctggatgttc ggcgtccccc cggaggccgt ggaccccctg 2100
atgcgccggg cggccaagac ggtgaacttc ggcgtcctct acggcatgtc cgcccatagg 2160
ctctcccagg agcttgccat cccctacgag gaggcggtgg cctttataga gcgctacttc 2220
caaagcttcc ccaaggtgcg ggcctggata gaaaagaccc tggaggaggg gaggaagcgg 2280
ggctacgtgg aaacctcctt cggaagaagg cgctacgtgc ccgacctcaa cgcccgggtg 2340
aagagcgtca gggaggccgc ggagcgcgtg gccttcaaca tgcccgtcca gggcaccgcc 2400
gccgacctca tgaagctcgc catggtgaag ctcttccccc gcctccggga gatggggggc 2460
cgcatgctcc tccaggtcgc caacgagctc ctctggagg cccccaagc gcgggcccag 2520
gaggtggcgg ctttggccaa ggaggccatg gagaaggcct atcccctcgc cgtgcccctg 2580
gaggtggagg tggggatggg ggaggactgg ctttccgcca agggtcacca ccaccaccac 2640
cac 2643

<210> 560

<211> 881
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 560

```

Met Gly Ala Asp Ile Gly Asp Leu Phe Glu Arg Glu Glu Val Glu Leu
1           5           10           15

Glu Tyr Phe Ser Gly Lys Lys Ile Ala Val Asp Ala Phe Asn Thr Leu
          20           25           30

Tyr Gln Phe Ile Ser Ile Ile Arg Gln Pro Asp Gly Thr Pro Leu Lys
          35           40           45

Asp Ser Gln Gly Arg Ile Thr Ser His Leu Ser Gly Ile Leu Tyr Arg
          50           55           60

Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp
65           70           75           80

Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys
          85           90           95

Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly
          100          105          110

Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu
          115          120          125

Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro
          130          135          140

Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala
145           150           155           160

Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu
          165          170          175

Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys
          180          185          190

Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile
          195          200          205

Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
          210          215          220

Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val
225           230           235           240

Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly
          245          250          255

```

Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val
260 265 270

Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr
275 280 285

Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu
290 295 300

Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu
305 310 315 320

Lys Leu Lys Ala Leu Lys Ser Thr Gln Ala Thr Leu Glu Arg Trp Phe
325 330 335

Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe
340 345 350

Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala
355 360 365

Ala Cys Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly
370 375 380

Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala
385 390 395 400

Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro
405 410 415

Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly
420 425 430

Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg
435 440 445

Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu
450 455 460

Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu
465 470 475 480

Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val
485 490 495

Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg
500 505 510

Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn
515 520 525

Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro
530 535 540

Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala
545 550 555 560

Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu
 565 570 575
 Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu
 580 585 590
 Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn
 595 600 605
 Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu
 610 615 620
 Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala
 625 630 635 640
 Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln
 645 650 655
 Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile
 660 665 670
 Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp
 675 680 685
 Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala
 690 695 700
 Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg
 705 710 715 720
 Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile
 725 730 735
 Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys
 740 745 750
 Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly
 755 760 765
 Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg
 770 775 780
 Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala
 785 790 795 800
 Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg
 805 810 815
 Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu
 820 825 830
 Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu
 835 840 845
 Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val
 850 855 860

Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His
865 870 875 880

His

<210> 561
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 561
ggttgacttc agagctttga g

21

<210> 562
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 562
aaagctctga agtcaaccct ggaggaggcc ccctgg

36

<210> 563
<211> 2619
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 563
atgggtgcgg atattggtga cctctttgag agggaagagg tcgagcttga gtacttctca 60
ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg 120
cagcctgacg gtacyccggt aaaggactca cagggcagaa tcacctctca cctttccgga 180
atcctataca gagtctccaa catggtcgag gtgggaatca ggccggtggt tgtattcgac 240
ggagagccac cggayttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
caggctgcag ggaggggttga cgagtacatt gttgactccg caaagacgct tttaagttac 420
atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480
gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct cttcggaagc 540

ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctgggtttg 660
acgagggagc agctcatcga catagcgatt ctggtcggga cggactacaa tgaggggtgtg 720
aaggggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tatttttcagg 780
gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttcctg 840
aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
atcgagttcc tgtgcgagga gcacgacttc agcagggaga gggtcgagaa ggccttggag 960
aagctcaaag ctctgaagtc aaccctggag gaggccccct ggcccccgcc ggaaggggcc 1020
ttcgtgggct tcgtcctctc ccgccccgag cccatgtggg cggagcttaa agcctggcc 1080
gcctgcaggg gcggcccggt gcaccgggca gcagaccctt tggcggggct aaaggacctc 1140
aaggaggtcc ggggcctcct cgccaaggac ctggcgtct tggcctcgag ggaggggcta 1200
gacctcgtgc ccggggacga ccccatgctc ctgcctacc tcctggacct ttcgaacacc 1260
acccccgagg gggtagcgcg gcgctacggg ggggagtgga cggaggacgc cgcccaccgg 1320
gccctcctct cggagaggct ccatcggaac ctcttaagc gcctcgaggg ggaggagaag 1380
ctcctttggc tctaccacga ggtggaaaag cccctctccc gggctcctggc ccatatggag 1440
gccaccgggg tacggcgggga cgtggcctac ctacaggccc tttccctgga gcttgcgag 1500
gagatccgcc gcctcgagga ggaggtcttc cgcttggcgg gccaccctt caacctcaac 1560
tcccgggacc agctggaaag ggtgctcttt gacgagctta ggcttcccgc cttgaagaag 1620
acgaagaaga caggcaagcg ctccaccagc gccgcggtgc tggaggccct acgggaggcc 1680
caccocatcg tggagaagat cctccagcac cgggagctca ccaagctcaa gaacacctac 1740
gtggaccccc tcccaagcct cgtccaccgg aggacgggcc gcctccacac ccgcttcaac 1800
cagacggcca cggccacggg gaggttagt agctccgacc ccaacctgca gaacatcccc 1860
gtccgcaccc ccttgggcca gaggatccgc cgggccttcg tggccgaggc gggttgggcg 1920
ttgggtggccc tggactatag ccagatagag ctccgcgtcc tcgcccacct ctccggggac 1980
gaaaacctga tcagggtctt ccaggagggg aaggacatcc acaccagac cgcaagctgg 2040
atgttcggcg tcccccgga ggccgtggac cccctgatgc gccgggcggc caagacggtg 2100
aacttcggcg tcctctacgg catgtccgcc cataggctct cccaggagct tgccatcccc 2160
tacgaggagg cggtagcctt tatagagcgc tacttccaaa gcttcccaa ggtgcgggcc 2220
tggatagaaa agaccctgga ggaggggagg aagcggggct acgtggaaac cctcttcgga 2280

agaaggcgct acgtgcccga cctcaacgcc cgggtgaaga gcgtcagggga ggccgcggag 2340
 cgcattggcct tcaacatgcc cgtccagggc accgccgccg acctcatgaa gctcgccatg 2400
 gtgaagctct tccccgcct ccgggagatg ggggcccga tgctcctcca ggtcgccaac 2460
 gagctcctcc tggaggcccc ccaagcgcg gccgaggagg tggcggcttt ggccaaggag 2520
 gccatggaga aggcctatcc cctcgccgtg cccctggagg tggagggtgg gatgggggag 2580
 gactggcttt ccgccaaggg tcaccaccac caccaccac 2619

<210> 564
 <211> 873
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 564

Met	Gly	Ala	Asp	Ile	Gly	Asp	Leu	Phe	Glu	Arg	Glu	Glu	Val	Glu	Leu	1	5	10	15
Glu	Tyr	Phe	Ser	Gly	Lys	Lys	Ile	Ala	Val	Asp	Ala	Phe	Asn	Thr	Leu	20	25	30	
Tyr	Gln	Phe	Ile	Ser	Ile	Ile	Arg	Gln	Pro	Asp	Gly	Thr	Pro	Leu	Lys	35	40	45	
Asp	Ser	Gln	Gly	Arg	Ile	Thr	Ser	His	Leu	Ser	Gly	Ile	Leu	Tyr	Arg	50	55	60	
Val	Ser	Asn	Met	Val	Glu	Val	Gly	Ile	Arg	Pro	Val	Phe	Val	Phe	Asp	65	70	75	80
Gly	Glu	Pro	Pro	Glu	Phe	Lys	Lys	Ala	Glu	Ile	Glu	Glu	Arg	Lys	Lys	85	90	95	
Arg	Arg	Ala	Glu	Ala	Glu	Glu	Met	Trp	Ile	Ala	Ala	Leu	Gln	Ala	Gly	100	105	110	
Asp	Lys	Asp	Ala	Lys	Lys	Tyr	Ala	Gln	Ala	Ala	Gly	Arg	Val	Asp	Glu	115	120	125	
Tyr	Ile	Val	Asp	Ser	Ala	Lys	Thr	Leu	Leu	Ser	Tyr	Met	Gly	Ile	Pro	130	135	140	
Phe	Val	Asp	Ala	Pro	Ser	Glu	Gly	Glu	Ala	Gln	Ala	Ala	Tyr	Met	Ala	145	150	155	160
Ala	Lys	Gly	Asp	Val	Glu	Tyr	Thr	Gly	Ser	Gln	Asp	Tyr	Asp	Ser	Leu	165	170	175	

Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys
180 185 190

Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile
195 200 205

Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
210 215 220

Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val
225 230 235 240

Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly
245 250 255

Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val
260 265 270

Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr
275 280 285

Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu
290 295 300

Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu
305 310 315 320

Lys Leu Lys Ala Leu Lys Ser Thr Leu Glu Glu Ala Pro Trp Pro Pro
325 330 335

Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met
340 345 350

Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His
355 360 365

Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg
370 375 380

Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu
385 390 395 400

Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp
405 410 415

Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu
420 425 430

Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His
435 440 445

Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu
450 455 460

Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu
465 470 475 480

Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu
 485 490 495
 Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu
 500 505 510
 Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val
 515 520 525
 Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr
 530 535 540
 Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala
 545 550 555 560
 His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu
 565 570 575
 Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr
 580 585 590
 Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg
 595 600 605
 Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro
 610 615 620
 Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala
 625 630 635 640
 Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His
 645 650 655
 Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp
 660 665 670
 Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala
 675 680 685
 Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val
 690 695 700
 Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro
 705 710 715 720
 Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro
 725 730 735
 Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg
 740 745 750
 Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu
 755 760 765
 Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe
 770 775 780

Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met
785 790 795 800

Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu
805 810 815

Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu
820 825 830

Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu
835 840 845

Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser
850 855 860

Ala Lys Gly His His His His His His
865 870

<210> 565

<211> 2643

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 565

```

atgggtgcgg atattggtga cctctttgag agggaagagg tcgagcttga gtacttctca    60
ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg    120
cagcctgacg gtacgccggt aaaggactca cagggcagaa tcacctctca cctttccgga    180
atcctataca gagtctccaa catggtcgag gtgggaatca ggccggtggt tgtattcgac    240
ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag    300
gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct    360
caggctgcag ggaggggttga cgagtacatt gttgactccg caaagacgct ttaagttac    420
atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca    480
gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct ctccggaagc    540
ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc    600
tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctggggttg    660
acgagggagc agtcatcga catagcgatt ctggtcggga cggactacaa tgaggggtgtg    720
aagggtgtcg gcgtcaagaa ggctttgaac tacatcaaga cctacggaga tattttcagg    780
gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttctg    840
aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc    900

```

atcgagttcc tgtgcgagga gcacgacttc agcagggaga gggtcgagaa ggccttggag 960
aagctcaaag ctctgaagtc aaccagggcc acgcttgaga ggtggttcct ggaggaggcc 1020
ccctggcccc cgccggaagg ggccttcgtg ggcttcgtcc tctcccgccc cgagcccatg 1080
tgggcgagac ttaaagccct ggccgctgc aggggcggcc gcgtccaccg ggccccgag 1140
ccttataaag ccctcagga cctgaaggag gcgcgggggc ttctcgcaa agacctgagc 1200
gttctggccc tgagggaagg ccttggcctc ccgcccggcg acgaccccat gctcctcgcc 1260
tacctcctgg acccttcgaa caccaccccc gagggggtgg cccggcgcta cggcggggag 1320
tggaaggagg aggcggggga gcgggcccgc ctttcgaga ggctcttcgc caacctgctt 1380
aagaggcttg agggggagga gaggtcctt tggctttacc gggagggtga gagggccctt 1440
tccgctgtcc tggcccatat ggaggccacg ggggtgcgcc tggacgtggc ctatctcagg 1500
gccttgtccc tggagggtggc cgaggagatc gcccgcctcg aggcgaggt cttccgcctg 1560
gccggccacc ccttcaacct caactcccgg gaccagctgg aaagggtcct ctttgacgag 1620
ctagggett ccccatcaa gaagacgcaa aagaccggca agcgtccac cagcgccgcc 1680
gtcctggagg ccctccgca ggcccacccc atcgtggaga agatcctgca gtaccgggag 1740
ctcaccaagc tgaagagcac ctacattgac cccttgccgg acctcatcca ccccaggacg 1800
ggccgcctcc acaccgctt caaccagacg gccacggcca cgggcagggt aagtagctcc 1860
gatcccaacc tccagaacat ccccgctcgc acccgcttg ggcagaggat ccgcccggcc 1920
ttcatcgccg aggaggggtg gctattggtg gccctggact atagccagat agagctcagg 1980
gtgctggccc acctctccgg cgacgagaac ctgatccggg tcttcagga ggggcgggac 2040
atccacacgg agaccgccag ctggatgttc ggcgtccccc gggaggccgt ggacccctg 2100
atgcgcggg cgccaagac catcaacttc ggggtcctct acggcatgtc ggcccacgc 2160
ctctcccagg agctagccat cccttacgag gagggccagg ccttcattga gcgctacttt 2220
cagagcttcc ccaagggtgc ggcttgatt gagaagacc tggaggaggg caggaggcgg 2280
gggtacgtgg agaccctctt cggccgcccgc cgctacgtgc cagacctaga ggcccgaatg 2340
aagagcgtgc gggaggcggc cgagcgcacg gccttcaaca tgcccgtcca gggcaccgcc 2400
gccgacctca tgaagctggc tatggtgaag ctcttcccca ggctggagga aatgggggcc 2460
aggatgctcc ttcaggtcgc caacgagctg gtcctcgagg ccccaaaaga gagggcggag 2520
gccgtggccc ggctggccaa ggaggatcag gagggggtgt atcccctggc cgtgcccctg 2580
gagggtggag tggggatagg ggaggactgg ctctccgcca aggagcacca ccaccaccac 2640

cac

2643

<210> 566
<211> 881
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 566

Met Gly Ala Asp Ile Gly Asp Leu Phe Glu Arg Glu Glu Val Glu Leu
1 5 10 15
Glu Tyr Phe Ser Gly Lys Lys Ile Ala Val Asp Ala Phe Asn Thr Leu
20 25 30
Tyr Gln Phe Ile Ser Ile Ile Arg Glr Pro Asp Gly Thr Pro Leu Lys
35 40 45
Asp Ser Gln Gly Arg Ile Thr Ser His Leu Ser Gly Ile Leu Tyr Arg
50 55 60
Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp
65 70 75 80
Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys
85 90 95
Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly
100 105 110
Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu
115 120 125
Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro
130 135 140
Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala
145 150 155 160
Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu
165 170 175
Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys
180 185 190
Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile
195 200 205
Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
210 215 220
Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val

225		230		235		240
Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly						
	245		250		255	
Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val						
	260		265		270	
Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr						
	275		280		285	
Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu						
	290		295		300	
Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu						
305	310		315		320	
Lys Leu Lys Ala Leu Lys Ser Thr Gln Ala Thr Leu Glu Arg Trp Phe						
	325		330		335	
Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe						
	340		345		350	
Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala						
	355		360		365	
Ala Cys Arg Gly Gly Arg Val His Arg Ala Pro Glu Pro Tyr Lys Ala						
	370		375		380	
Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu Ala Lys Asp Leu Ser						
385	390		395		400	
Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro Pro Gly Asp Asp Pro						
	405		410		415	
Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly						
	420		425		430	
Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Glu Ala Gly Glu Arg						
	435		440		445	
Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn Leu Leu Lys Arg Leu Glu						
	450		455		460	
Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu						
465	470		475		480	
Ser Ala Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val						
	485		490		495	
Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg						
	500		505		510	
Leu Glu Ala Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn						
	515		520		525	
Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro						

530					535					540					
Ala	Ile	Lys	Lys	Thr	Gln	Lys	Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala
545					550					555				560	
Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu
				565					570				575		
Gln	Tyr	Arg	Glu	Leu	Thr	Lys	Leu	Lys	Ser	Thr	Tyr	Ile	Asp	Pro	Leu
			580					585					590		
Pro	Asp	Leu	Ile	His	Pro	Arg	Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn
		595					600					605			
Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu
	610					615					620				
Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala
625					630					635				640	
Phe	Ile	Ala	Glu	Glu	Gly	Trp	Leu	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln
				645					650				655		
Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu	Ser	Gly	Asp	Glu	Asn	Leu	Ile
			660					665					670		
Arg	Val	Phe	Gln	Glu	Gly	Arg	Asp	Ile	His	Thr	Glu	Thr	Ala	Ser	Trp
		675					680						685		
Met	Phe	Gly	Val	Pro	Arg	Glu	Ala	Val	Asp	Pro	Leu	Met	Arg	Arg	Ala
	690					695					700				
Ala	Lys	Thr	Ile	Asn	Phe	Gly	Val	Leu	Tyr	Gly	Met	Ser	Ala	His	Arg
705				710						715				720	
Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu	Glu	Ala	Gln	Ala	Phe	Ile
				725					730				735		
Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys
			740					745					750		
Thr	Leu	Glu	Glu	Gly	Arg	Arg	Arg	Gly	Tyr	Val	Glu	Thr	Leu	Phe	Gly
		755					760					765			
Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Glu	Ala	Arg	Val	Lys	Ser	Val	Arg
		770				775					780				
Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn	Met	Pro	Val	Gln	Gly	Thr	Ala
785				790						795				800	
Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val	Lys	Leu	Phe	Pro	Arg	Leu	Glu
				805					810				815		
Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln	Val	Ala	Asn	Glu	Leu	Val	Leu
			820					825					830		
Glu	Ala	Pro	Lys	Glu	Arg	Ala	Glu	Ala	Val	Ala	Arg	Leu	Ala	Lys	Glu

835	840	845
Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val		
850	855	860
Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His		
865	870	880

His

<210> 567
 <211> 2643
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 567
 atgggtgcgg atattggtga cctctttgag agggaagagg tcgagcttga gtactttctca 60
 ggaaagaaaa ttgccgttga tgctttcaac acgctatacc agttcatctc gataataagg 120
 cagcctgacg gtacgccgtt aaaggactca cagggcagaa tcacctctca cctttccgga 180
 atcctataca gagtctccaa catggctcag gtgggaatca ggccggtgtt tgtattcgac 240
 ggagagccac cggagttcaa gaaggctgaa attgaggaga ggaaaaagag aagggtgag 300
 gcagaggaga tgtggattgc ggctttgcag gcaggagata aggacgcgaa aaagtatgct 360
 caggctgcag ggagggttga cgagtacatt gttgactccg caaagacgct ttttaagttac 420
 atggggattc cctttgtcga tgccccgtct gaaggagagg cgcaggctgc ttacatggca 480
 gcaaaaggcg atgtggagta cacaggaagc caggattacg attctctgct cttcggaagc 540
 ccgagactcg ccagaaatct cgcaataacg ggaaaaagga agcttcccgg caaaaatgtc 600
 tatgtggatg taaagccgga gataataatt ctggaaagca acctcaaaag gctggggttg 660
 acgagggagc agctcatcga catagcgatt ctggtcggga cggactacaa tgagggtgtg 720
 aagggtgtcg gcgtaagaa ggctttgaac tacatcaaga cctacggaga tattttcagg 780
 gcactcaagg ctctgaaagt aaatattgac cacgtagagg agataaggaa tttcttctg 840
 aatcctcctg tgactgacga ctacagaata gagttcaggg agcctgactt tgagaaggcc 900
 atcgagttcc tgtgagga gcacgacttc agcagggaga gggtcgagaa ggccttgag 960
 aagctcaaag ctctgaagtc aaccaggcc acgcttgaga ggtggttcct ggaggaggcc 1020
 ccctggcccc cgccggaagg ggccttcgtg ggcttcgtcc tctccgccc cgagcccatg 1080
 tgggcggagc ttaaagccct ggccgcctgc aggggcggcc gcgccaccg ggcccccgag 1140

ccttataaag ccctcagga cctgaaggag gcgcgggggc ttctcgccaa agacctgagc 1200
gttctggccc tgagggaagg ccttggcctc ccgcccggcg acgaccccat gctcctcgcc 1260
tacctcctgg acccttcgaa caccaccccc gaggggggtgg cccggcgcta cggcggggag 1320
tggaaggagg aggcggggga gcgggcccgc ctttcgaga ggctcttcgc caacctgtgg 1380
gggaggcttg agggggagga gaggtcctt tggctttacc gggagggtgga gagggccctt 1440
tccgctgtcc tggcccatat ggaggccacg ggggtgcgcc tggacgtggc ctatctcagg 1500
gccttgctcc tggagggtggc cgaggagatc gcccgcctcg aggcggaggt cttccgcctg 1560
gccggccacc cttcaacct caactcccgg gaccagctgg aaagggtcct ctttgacgag 1620
ctagggttc ccgccatcgg caagacggag aagaccggca agcgctccac cagcgccgcc 1680
gtcctggagg ccctccgga ggcccacccc atcgtggaga agatcctgca gtaccgggag 1740
ctcaccaagc tgaagagcac ctacattgac cccttgccgg acctcatcca ccccaggacg 1800
ggccgcctcc acaccgctt caaccagacg gccacggcca cgggcaggct aagtagctcc 1860
gateccaacc tccagaacat ccccgctcgc acccgcttg ggcagaggat ccgcccggcc 1920
ttcatcgccg aggaggggtg gctattggtg gccctggact atagccagat agagctcagg 1980
gtgctggccc acctctccgg cgacgagaac ctgatccggg tcttccagga ggggcgggac 2040
atccacacgg agaccgccag ctggatgttc ggcgtcccc gggaggccgt ggacccctg 2100
atgcgccggg cggccaagac catcaacttc ggggtcctct acggcatgtc ggcccaccgc 2160
ctctcccagg agctagccat cccttacgag gaggcccagg ctttcattga gcgctacttt 2220
cagagcttcc ccaaggtgcg ggcctggatt gagaagacc tggaggaggg caggaggcgg 2280
gggtacgtgg agaccctctt cggccgccc cgctacgtgc cagacctaga ggcccgggtg 2340
aagagcgtgc gggaggcggc cgagcgcgtg gccttcaaca tgcccgtcca gggcaccgcc 2400
gccgacctca tgaagctggc tatggtgaag ctcttcccca ggctggagga aatgggggcc 2460
aggatgctcc ttcagggtcca caacgagctg gtcctcgagg ccccaaaaga gagggcggag 2520
gccgtggccc ggctggccaa ggaggatcgt gaggggggtgt atcccctggc cgtgcccctg 2580
gaggtggagg tggggatagg ggaggactgg ctctccgcca aggagcacca ccaccaccac 2640
cac 2643

<210> 568
<211> 881
<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 568

```

Met Gly Ala Asp Ile Gly Asp Leu Phe Glu Arg Glu Glu Val Glu Leu
1           5           10           15

Glu Tyr Phe Ser Gly Lys Lys Ile Ala Val Asp Ala Phe Asn Thr Leu
          20           25           30

Tyr Gln Phe Ile Ser Ile Ile Arg Gln Pro Asp Gly Thr Pro Leu Lys
          35           40           45

Asp Ser Gln Gly Arg Ile Thr Ser His Leu Ser Gly Ile Leu Tyr Arg
50           55           60

Val Ser Asn Met Val Glu Val Gly Ile Arg Pro Val Phe Val Phe Asp
65           70           75           80

Gly Glu Pro Pro Glu Phe Lys Lys Ala Glu Ile Glu Glu Arg Lys Lys
          85           90           95

Arg Arg Ala Glu Ala Glu Glu Met Trp Ile Ala Ala Leu Gln Ala Gly
          100          105          110

Asp Lys Asp Ala Lys Lys Tyr Ala Gln Ala Ala Gly Arg Val Asp Glu
          115          120          125

Tyr Ile Val Asp Ser Ala Lys Thr Leu Leu Ser Tyr Met Gly Ile Pro
          130          135          140

Phe Val Asp Ala Pro Ser Glu Gly Glu Ala Gln Ala Ala Tyr Met Ala
          145          150          155          160

Ala Lys Gly Asp Val Glu Tyr Thr Gly Ser Gln Asp Tyr Asp Ser Leu
          165          170          175

Leu Phe Gly Ser Pro Arg Leu Ala Arg Asn Leu Ala Ile Thr Gly Lys
          180          185          190

Arg Lys Leu Pro Gly Lys Asn Val Tyr Val Asp Val Lys Pro Glu Ile
          195          200          205

Ile Ile Leu Glu Ser Asn Leu Lys Arg Leu Gly Leu Thr Arg Glu Gln
          210          215          220

Leu Ile Asp Ile Ala Ile Leu Val Gly Thr Asp Tyr Asn Glu Gly Val
          225          230          235          240

Lys Gly Val Gly Val Lys Lys Ala Leu Asn Tyr Ile Lys Thr Tyr Gly
          245          250          255

Asp Ile Phe Arg Ala Leu Lys Ala Leu Lys Val Asn Ile Asp His Val
          260          265          270

```

Glu Glu Ile Arg Asn Phe Phe Leu Asn Pro Pro Val Thr Asp Asp Tyr
 275 280 285
 Arg Ile Glu Phe Arg Glu Pro Asp Phe Glu Lys Ala Ile Glu Phe Leu
 290 295 300
 Cys Glu Glu His Asp Phe Ser Arg Glu Arg Val Glu Lys Ala Leu Glu
 305 310 315 320
 Lys Leu Lys Ala Leu Lys Ser Thr Gln Ala Thr Leu Glu Arg Trp Phe
 325 330 335
 Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe
 340 345 350
 Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala
 355 360 365
 Ala Cys Arg Gly Gly Arg Val His Arg Ala Pro Glu Pro Tyr Lys Ala
 370 375 380
 Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu Leu Ala Lys Asp Leu Ser
 385 390 395 400
 Val Leu Ala Leu Arg Glu Gly Leu Gly Leu Pro Pro Gly Asp Asp Pro
 405 410 415
 Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly
 420 425 430
 Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Glu Ala Gly Glu Arg
 435 440 445
 Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn Leu Trp Gly Arg Leu Glu
 450 455 460
 Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg Glu Val Glu Arg Pro Leu
 465 470 475 480
 Ser Ala Val Leu Ala His Met Glu Ala Thr Gly Val Arg Leu Asp Val
 485 490 495
 Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val Ala Glu Glu Ile Ala Arg
 500 505 510
 Leu Glu Ala Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn
 515 520 525
 Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Gly Leu Pro
 530 535 540
 Ala Ile Gly Lys Thr Glu Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala
 545 550 555 560
 Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu
 565 570 575

Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser Thr Tyr Ile Asp Pro Leu
 580 585 590

Pro Asp Leu Ile His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn
 595 600 605

Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu
 610 615 620

Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala
 625 630 635 640

Phe Ile Ala Glu Glu Gly Trp Leu Leu Val Ala Leu Asp Tyr Ser Gln
 645 650 655

Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile
 660 665 670

Arg Val Phe Gln Glu Gly Arg Asp Ile His Thr Glu Thr Ala Ser Trp
 675 680 685

Met Phe Gly Val Pro Arg Glu Ala Val Asp Pro Leu Met Arg Arg Ala
 690 695 700

Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg
 705 710 715 720

Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Gln Ala Phe Ile
 725 730 735

Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys
 740 745 750

Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr Val Glu Thr Leu Phe Gly
 755 760 765

Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala Arg Val Lys Ser Val Arg
 770 775 780

Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala
 785 790 795 800

Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Glu
 805 810 815

Glu Met Gly Ala Arg Met Leu Leu Gln Val His Asn Glu Leu Val Leu
 820 825 830

Glu Ala Pro Lys Glu Arg Ala Glu Ala Val Ala Arg Leu Ala Lys Glu
 835 840 845

Val Met Glu Gly Val Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val
 850 855 860

Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys Glu His His His His His
 865 870 875 880

His

<210> 569
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 569
gagcggataa caatttcaca cagg

24

<210> 570
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 570
tgcccgggtgc acgcgggccgc ccctgcaggc

30

<210> 571
<211> 2445
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 571
atgaattccc tgcccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taaggaaga cggggatgtg 180
gtgatcgtgg tgtttgacgc caaggcccc tccttccgcc accagaccta cgaggc' tac 240
aaggcggggc gggctccac ccccgaggac tttcccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggcct ggagcgctc gaggtgccgg gctttgaagc ggatgacytc 360
ctggctaccc tggccaagaa ggcggaaaag gagggctacg aggtccgcac cctcaccgcc 420
gacaaagacc tttaccagct cttttccgac cgcattccacg tcctccaccc cgaggggtac 480
ctcatcacc cggcctggct ttgggaaaag tacggcctga ggcccgaaca gtgggcccgc 540
taccgggccc tgaccgggga cgagtccgac aaccttcccg ggggtcaagg catcggggag 600

aagacggcga ggaagcttct ggaggagtgg gggagcctgg aagccctcct caagaacctg 660
gaccggctga agcccgccat ccgggagaag atcctggccc acatggacga tctgaagctc 720
tcctgggacc tggccaaggt gcgcaccgac ctgcccctgg aggtggactt cgccaaaagg 780
cgggagcccc accgggaggg ggagaagccc cgggaggagg cccctggcc cccgccccgaa 840
ggggccttcg tgggcttcct cctttcccg cccgagccca tgtgggcgga gcttaaagcc 900
ctggccgcct gcaggggagg ccgcgtgcac cgggcagcag accccttggc ggggctaaag 960
gacctcaagg aggtccgggg cctcctcgcc aaggacctcg ccgtcttggc ctcgaggag 1020
gggctagacc tcgtgcccgg ggacgacccc atgctcctcg cctacctcct ggacccttcg 1080
aacaccaccc ccgaggggggt ggcgcgggcg tacggggggg agtggacgga ggacgccgcc 1140
caccgggccc tcctctcgga gaggtccat cggaacctcc ttaagcgctt cgagggggag 1200
gagaagctcc tttggctcta ccacgaggtg gaaaagcccc tctcccgggt cctggcccat 1260
atggaggcca ccggggtagc gcgggacgtg gcctaccttc aggcccttcc cctggagctt 1320
gcggaggaga tccgccgcct cgaggaggag gtcttccgct tggcgggcca ccccttcaac 1380
ctcaactccc gggaccagct ggaaaggggt ctctttgacg agcttaggct tcccgccttg 1440
aagaagacga agaagacagg caagcgctcc accagcgccg cgggtgctgga ggccctacgg 1500
gaggcccacc ccatcgctga gaagatctc cagcaccggg agctcaccaa gctcaagaac 1560
acctacgtgg accccctccc aagcctcgtc caccgagga cgggcgcct ccacaccgc 1620
ttcaaccaga cggccacggc cacggggagg cttagtagct ccgaccccaa cctgcagaac 1680
atccccgtcc gcacccctt gggccagagg atccgccggg ccttcgtggc cgaggcgggt 1740
tgggcgttgg tggccctgga ctatagccag atagagctcc gcgtcctcgc ccacctctcc 1800
ggggacgaaa acctgatcag ggtcttcag gaggggaagg acatccacac ccagaccgca 1860
agctggatgt tcggcgctcc cccggaggcc gtggaccccc tgatgcgccg ggcggccaag 1920
acggtgaact tcggcgctct ctacggcatg tccgcccata ggctctccca ggagcttgcc 1980
atcccctacg aggaggcggg ggcctttata gagcgctact tccaaagctt cccaagggtg 2040
cgggcctgga tagaaaagac cctggaggag gggaggaagc ggggctacgt ggaaaccctc 2100
ttcggaagaa ggcgctacgt gcccgacctc aacgcccggg tgaagagcgt cagggaggcc 2160
gcggagcgca tggccttcaa catgcccgtc cagggcaccg ccgccgacct catgaagctc 2220
gcatggtga agctcttccc ccgcctccgg gagatggggg ccgcgatgct cctccaggtc 2280
gccaacgagc tcctcctgga ggccccccaa gcgcggggcg aggaggtggc ggctttggcc 2340

aaggaggcca tggagaaggc ctatcccctc gccgtgcccc tggaggtgga ggtggggatg 2400

ggggaggact ggctttccgc caagggtcac caccaccacc accac 2445

<210> 572

<211> 815

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 572

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
35 40 45

Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
50 55 60

Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
65 70 75 80

Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
85 90 95

Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
100 105 110

Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
115 120 125

Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu
130 135 140

Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly Tyr
145 150 155 160

Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp
165 170 175

Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu
180 185 190

Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu
195 200 205

Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys
210 215 220

Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu Lys Leu
 225 230 235 240
 Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu Val Asp
 245 250 255
 Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Glu Lys Pro Arg Glu
 260 265 270
 Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu
 275 280 285
 Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys
 290 295 300
 Arg Glu Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys
 305 310 315 320
 Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu
 325 330 335
 Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu
 340 345 350
 Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala
 355 360 365
 Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu
 370 375 380
 Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu
 385 390 395 400
 Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg
 405 410 415
 Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr
 420 425 430
 Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu
 435 440 445
 Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg
 450 455 460
 Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu
 465 470 475 480
 Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu
 485 490 495
 Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His
 500 505 510
 Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser
 515 520 525

Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr
 530 535 540
 Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn
 545 550 555 560
 Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val
 565 570 575
 Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu
 580 585 590
 Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val
 595 600 605
 Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe
 610 615 620
 Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys
 625 630 635 640
 Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser
 645 650 655
 Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg
 660 665 670
 Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu
 675 680 685
 Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg
 690 695 700
 Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala
 705 710 715 720
 Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp
 725 730 735
 Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met
 740 745 750
 Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala
 755 760 765
 Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met
 770 775 780
 Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met
 785 790 795 800
 Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His
 805 810 815
 <210> 573
 <211> 2520

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 573

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct caaggaggac 180
ggggacgcgg tgatcgtggt ctttgacgcc aaggccccct ccttccgcca cgaggcctac 240
gggggggtaca aggcggggccg ggccccacc ccggaggact tccccgcca gctcgccttg 300
gtcaagcggc tgggtggacct tctgggcctg gtccgcctcg agggcccggt gtacgaggcg 360
gacgacgtcc tgggcaccct ggccaagaag gccgaaaagg aggggtacga ggtgcgcata 420
ctcaccgccg accgcgacct ctaccaactc gtctccgacc gcatccacgt cctccacccc 480
tcatcacccc ggagtggctt tgggag agt atgggcttaa gccttcccag 540
tgggtggact accgggcctt ggccggggac ccttccgaca acatccccgg cgtgaagggc 600
atcggggaga agacggcggc caagctgata cgggagtggg gaagcctgga aaacctctc 660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat 720
ctgaagctct cctgggacct ggccaaggct cgcaccgacc tgcccctgga ggtggacttc 780
gccaaaaggc gggagcccga ccgggagagg cttagggcct ttctggagag gcttgagttt 840
ggcagcctcc tccacgagtt cggccttctg gaaagcccca aggccttggg ggaggcccc 900
tggccccgcg cggaaggggc cttcgtgggc ttcgtcctct cccgccccga gcccatgtgg 960
gcggagctta aagccttggc cgcctgcagg ggcggccgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggct cggggcctcc tcgccaagga cctcgcctc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgcctac 1140
ctcctggacc cttegaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctctc tcggagaggc tccatcgga cctccttaag 1260
cgctcagag gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctcc 1320
cgggtcctgg cccatatgga ggccaccggg gtacggcggg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccgc cgcctcagag aggaggtctt ccgcttggcg 1440
ggccaccctc tcaacctcaa ctcccgggac cagctggaaa ggggtgctct tgacgagctt 1500
aggcttcccg ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgccgcggtg 1560

ctggaggccc tacgggagge ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
 accaagctca agaacaccta cgtggacccc ctcccaagcc tcgtccaccc gaggacgggc 1680
 cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740
 cccaacctgc agaacatccc cgtccgcacc cccttggggc agaggatccg ccgggccttc 1800
 gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
 ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
 cacaccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga ccccctgatg 1980
 cgccgggagg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040
 tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
 agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160
 tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220
 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280
 gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340
 atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
 gtggcggctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460
 gtggaggtgg ggatggggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 574
 <211> 840
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 574

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val
50 55 60

Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr

65		70		75		80
Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg						
	85		90		95	
Gln Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Leu Val Arg						
	100		105		110	
Leu Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala						
	115		120		125	
Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp						
	130		135		140	
Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Ile His Val Leu His Pro						
	145		150		155	160
Glu Gly Tyr Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu						
	165		170		175	
Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser						
	180		185		190	
Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys						
	195		200		205	
Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp						
	210		215		220	
Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp						
	225		230		235	240
Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu						
	245		250		255	
Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg						
	260		265		270	
Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly						
	275		280		285	
Leu Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro						
	290		295		300	
Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp						
	305		310		315	320
Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg						
	325		330		335	
Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly						
	340		345		350	
Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp						
	355		360		365	
Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro						

370	375	380
Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp		
385	390	395 400
Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg		
	405	410 415
Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr		
	420	425 430
His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala		
	435	440 445
Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu		
	450	455 460
Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala		
465	470	475 480
Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu		
	485	490 495
Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly		
	500	505 510
Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His		
	515	520 525
Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys		
	530	535 540
Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly		
545	550	555 560
Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu		
	565	570 575
Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu		
	580	585 590
Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu		
	595	600 605
Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu		
	610	615 620
Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile		
625	630	635 640
His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val		
	645	650 655
Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu		
	660	665 670
Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr		

675	680	685
Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys		
690	695	700
Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly		
705	710	715
Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn		
725	730	735
Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn		
740	745	750
Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val		
755	760	765
Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln		
770	775	780
Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu		
785	790	795
Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala		
805	810	815
Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala		
820	825	830
Lys Gly His His His His His His		
835	840	

<210> 575
 <211> 2445
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 575	
atgaattccc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac	60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc	120
caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg	180
gtgatcgtgg tgtttgacgc caaggccccc tccttcgcgc accagacctt cgaggcctac	240
aaggcggggc gggctcccac ccccgaggac tttccccggc agcttgccct tatcaaggag	300
atggtggacc ttttgggctt taccgcctc gaggtgccgg gctttgaagc ggatgacgtc	360
ctggctaccc tggccaagaa ggcggaaaag gagggctacg aggtccgcat cctcaccgcc	420
gacaaagacc tttaccagct cctttccgac cgcattccacg tcctccaccc cgaggggtac	480

ctcatcacc cggcctggct ttgggaaaag tacggcctga ggcccgacca gtggggccgac 540
taccggggccc tgaccgggga cgagtccgac aaccttcccg ggggtcaagg catcgggggag 600
aagacggcga ggaagcttct ggaggagtgg gggagcctgg aagccctcct caagaacctg 660
gaccggctga agcccgccat ccgggagaag atcctggccc acatggacga tctgaagctc 720
tcctgggacc tggccaaggt ggcacccgac ctgcccctgg aggtggactt cgccaaaagg 780
cgggagcccg accgggaggg ggagaagccc cgggaggagg cccctggcc cccgcccga 840
ggggccttcg tgggcttcct cctttcccgc cccgagccca tgtgggcgga gcttaaagcc 900
ctggccgcct gcagggggcg ccgcgtgcac cgggcagcag accccttggc ggggctaaag 960
gacctcaagg aggtccgggg cctcctcgcc aaggacctcg ccgtcttggc ctcgaggag 1020
gggctagacc tcgtgcccgg ggacgacccc atgctcctcg cctacctcct ggacccttcg 1080
aacaccaccc ccgagggggg ggcgcgccgc tacggggggg agtggacgga ggacgcgc 1140
caccggggccc tcctctcgga gaggtccat cggaacctcc ttaagcgct cgaggggggag 1200
gagaagctcc tttggctcta ccacgaggtg gaaaagcccc tctcccgggt cctggcccat 1260
atggaggcca ccggggtacg gcgggacgtg gcctaccttc aggccctttc cctggagctt 1320
gcggaggaga tccgcccct cgaggaggag gtcttccgct tggcgggcca ccccttcaac 1380
ctcaactccc gggaccagct ggaaaggggt ctctttgacg agcttaggct tcccgccttg 1440
aagaagacga agaagacagg caagcgctcc accagcgccg cgggtgctgga ggccttacgg 1500
gaggcccacc ccatcgtgga gaagatcctc cagcaccggg agctcaccaa gctcaagaac 1560
acctacgtgg accccctccc aagcctcgtc caccgagga cgggcgcct ccacaccgc 1620
ttcaaccaga cggclacggc cacggggagg cttagtagct ccgaccccaa cctgcagaac 1680
atccccgtcc gcaccccctt gggccagagg atccgcccgg ccttcgtggc cgaggcgggt 1740
tgggcgttgg tggccctgga ctatagccag atagagctcc gcgtcctcgc ccacctctcc 1800
ggggacgaaa acctgatcag ggtcttccag gaggggaagg acatccacac ccagaccgca 1860
agctggatgt tcggcgctcc cccggaggcc cgggaccccc tgatgcgccg ggcggccaag 1920
acgggtgaact tcggcgctct ctacggcatg tccgcccata ggctctccca ggagcttgcc 1980
atcccctacg aggaggcggg ggcctttata gacgctact tccaaagctt cccaagggtg 2040
cgggcctgga tagaaaagac cctggaggag gggaggaagc ggggctacgt ggaaaccctc 2100
ttcggaagaa ggcgctacgt gcccacctc aacgcccggg tgaagagcgt cagggaggcc 2160
gcggagcgca tggccttcaa catgcccgtc cagggcaccg ccgccgacct catgaagctc 2220

gccatggtga agctcttccc ccgcctccgg gagatggggg cccgcatgct cctccaggtc 2280
 gccaacgagc tcctcctgga ggccccccaa gcgcgggccc aggaggtggc ggctttggcc 2340
 aaggaggcca tggagaaggc ctatcccctc gccgtgcccc tggaggtgga ggtggggatg 2400
 ggggaggact ggctttccgc caagggtcac caccaccacc accac 2445

<210> 576
 <211> 815
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 576

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30
 Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60
 Phe Asp Ala Lys Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Met Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp
 165 170 175
 Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu

195					200					205					
Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	Arg	Leu	Lys
210					215					220					
Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	Leu	Lys	Leu
225					230					235					240
Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	Glu	Val	Asp
				245					250					255	
Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Gly	Glu	Lys	Pro	Arg	Glu
			260					265					270		
Glu	Ala	Pro	Trp	Pro	Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Leu	Leu
		275					280					285			
Ser	Arg	Pro	Glu	Pro	Met	Trp	Ala	Glu	Leu	Lys	Ala	Leu	Ala	Ala	Cys
		290				295					300				
Arg	Gly	Gly	Arg	Val	His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys
305					310					315					320
Asp	Leu	Lys	Glu	Val	Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu
				325					330					335	
Ala	Ser	Arg	Glu	Gly	Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu
			340					345					350		
Leu	Ala	Tyr	Leu	Leu	Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala
		355					360					365			
Arg	Arg	Tyr	Gly	Gly	Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu
		370				375					380				
Leu	Ser	Glu	Arg	Leu	His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu
385					390					395					400
Glu	Lys	Leu	Leu	Trp	Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg
				405					410					415	
Val	Leu	Ala	His	Met	Glu	Ala	Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr
			420					425					430		
Leu	Gln	Ala	Leu	Ser	Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu
		435					440					445			
Glu	Glu	Val	Phe	Arg	Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg
		450				455					460				
Asp	Gln	Leu	Glu	Arg	Val	Leu	Phe	Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu
465					470					475					480
Lys	Lys	Thr	Lys	Lys	Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu
				485					490					495	
Glu	Ala	Leu	Arg	Glu	Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His

500								505				510				
Arg	Glu	Leu	Thr	Lys	Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	
515							520				525					
Leu	Val	His	Pro	Arg	Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	
530							535				540					
Ala	Thr	Ala	Thr	Gly	Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	
545							550				555				560	
Ile	Pro	Val	Arg	Thr	Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	
565							570				575					
Ala	Glu	Ala	Gly	Trp	Ala	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	
580							585				590					
Leu	Arg	Val	Leu	Ala	His	Leu	Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	
595							600				605					
Phe	Gln	Glu	Gly	Lys	Asp	Ile	His	Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	
610							615				620					
Gly	Val	Pro	Pro	Glu	Ala	Val	Asp	Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	
625							630				635				640	
Thr	Val	Asn	Phe	Gly	Val	Leu	Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	
645							650				655					
Gln	Glu	Leu	Ala	Ile	Pro	Tyr	Glu	Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	
660							665				670					
Tyr	Phe	Gln	Ser	Phe	Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	
675							680				685					
Glu	Glu	Gly	Arg	Lys	Arg	Gly	Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	
690							695				700					
Arg	Tyr	Val	Pro	Asp	Leu	Asn	Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	
705							710				715				720	
Ala	Glu	Arg	Met	Ala	Phe	Asn	Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	
725							730				735					
Leu	Met	Lys	Leu	Ala	Met	Val	Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	
740							745				750					
Gly	Ala	Arg	Met	Leu	Leu	Gln	Val	Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	
755							760				765					
Pro	Gln	Ala	Arg	Ala	Glu	Glu	Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	
770							775				780					
Glu	Lys	Ala	Tyr	Pro	Leu	Ala	Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	
785							790				795				800	
Gly	Glu	Asp	Trp	Leu	Ser	Ala	Lys	Gly	His	His	His	His	His	His	His	

805

810

815

<210> 577
<211> 2520
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 577

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct caaggaggac 180
ggggacgcgg tgatcgtggt ctttgacgcc aaggccccct ccttcgccca cgaggcctac 240
gggggggtaca aggcggggcgg ggccccacc ccggaggact tccccgccca gctcgccttg 300
gtcaagcggc tgggtggacct tctgggcttt acccgctcgg agggccccgg gtacgaggcg 360
gacgacgtcc tgggcaccct ggccaagaag gccgaaaagg aggggtacga ggtgcgcac 420
ctcaccgccg accgcgacct ctaccaactc gtctccgacc gcatccacgt cctccacccc 480
gaggggtacc tcatcacccc ggagtggctt tgggagaagt atgggcttaa gccttcccag 540
tgggtggact accgggcctt ggccggggac ccttcgcaca acatccccgg cgtgaagggc 600
atcggggaga agacggcggc caagctgac cgggagtggg gaagcctgga aaacctctc 660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat 720
ctgaagctct cctgggacct ggccaagggt cgcaccgacc tgcccctgga ggtggacttc 780
gccaaaaggc gggagcccga ccgggagagg cttagggcct ttctggagag gcttgagttt 840
ggcagcctcc tccacgagtt cggccttctg gaaagcccca aggccttggg ggaggcccc 900
tggccccgc cggaaggggc ctctgtgggc ttctgctctt cccgccccga gccatgtgg 960
gcggagctta aagccctggc cgcctgcagg ggcgycgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgcctc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg acccatgct cctcgcctac 1140
ctcctggacc ctctgaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctctc tcggagaggc tccatcgga cctccttaag 1260
cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctcc 1320
cgggtcctgg cccatatgga ggccaccggg gtacggcggg acgtggccta ccttcaggcc 1380

ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccacccct tcaacctcaa ctcccgggac cagctggaaa ggggtgctctt tgacgagctt 1500
aggcttcccc ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgccgcggtg 1560
ctggaggccc tacgggaggg ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctcccaagcc tcgtccaccc gaggacgggc 1680
cgctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740
cccaacctgc agaacatccc cgtccgcacc cccttggggc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcgcaccac tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
cacaccaga ccgcaagctg gatgttcggc gtccccccgg aggccgtgga cccctgatg 1980
cgccgggagg ccaagacggt gaacttcggc gtctctacg gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttcaa 2100
agcttcccca aggtgcgggc ctggatagaa aagacctgg aggaggggag gaagcggggc 2160
tacgtgaaa ccctcttcgg aagaaggcg tacgtgccc acctcaacgc ccgggtgaag 2220
agcgtcagg aggccgcgga gcgcatggcc ttcaacatgc ccgtccagg caccgccgcc 2280
gacctcatga agctcgccat ggtgaagctc tcccccgcc tccgggagat gggggcccgc 2340
atgctcctcc aggtcgccaa cgagtcctc ctggaggccc cccaagcgcg ggccgaggag 2400
gtggcggtt tggccaagga ggccatggag aaggcctatc ccctcgccgt gccctggag 2460
gtggaggtgg ggatggggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 578
<211> 840
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 578

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val
 50 55 60
 Ile Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr
 65 70 75 80
 Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg
 85 90 95
 Gln Leu Ala Leu Val Lys Arg Leu Val Asp Leu Leu Gly Phe Thr Arg
 100 105 110
 Leu Glu Ala Pro Gly Tyr Glu Ala Asp Asp Val Leu Gly Thr Leu Ala
 115 120 125
 Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp
 130 135 140
 Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Ile His Val Leu His Pro
 145 150 155 160
 Glu Gly Tyr Leu Ile Thr Pro Gln Trp Leu Trp Glu Lys Tyr Gly Leu
 165 170 175
 Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro Ser
 180 185 190
 Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala Lys
 195 200 205
 Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp
 210 215 220
 Arg Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp
 225 230 235 240
 Leu Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu
 245 250 255
 Glu Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg
 260 265 270
 Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly
 275 280 285
 Leu Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro
 290 295 300
 Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp
 305 310 315 320
 Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val His Arg
 325 330 335
 Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly
 340 345 350

Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp
 355 360 365
 Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro
 370 375 380
 Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp
 385 390 395 400
 Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg
 405 410 415
 Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr
 420 425 430
 His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala
 435 440 445
 Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu
 450 455 460
 Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala
 465 470 475 480
 Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu
 485 490 495
 Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly
 500 505 510
 Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His
 515 520 525
 Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys
 530 535 540
 Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly
 545 550 555 560
 Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu
 565 570 575
 Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu
 580 585 590
 Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu
 595 600 605
 Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu
 610 615 620
 Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile
 625 630 635 640
 His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val
 645 650 655

Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu
660 665 670

Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr
675 680 685

Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys
690 695 700

Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly
705 710 715 720

Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn
725 730 735

Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn
740 745 750

Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val
755 760 765

Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln
770 775 780

Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu
785 790 795 800

Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala
805 810 815

Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala
820 825 830

Lys Gly His His His His His His
835 840

<210> 579

<211> 2445

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 579

atgaattccc tgccctcttt tgagcccaag ggccgggtgc ttctggtgga cggccacac~ 60

ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120

caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180

gtgatcgtgg tctttgacgc cgaggccccc tccttcgcgc accagaccta cgaggcctac 240

aaggcggggc gggctccac ccccgaggac tttcccgcgc agcttgccct tatcaaggag 300

atggtggacc ttttgggcct ggagcgctc gaggtgccgg gctttgaagc ggatgacgtc 360

ctggctaccc tggccaagaa ggcggaaaag gagggctacg aggtccgcat cctcaccgcc 420
gacaaagacc ttaccagct cctttccgac cgcattccacg tcctccaccc cgaggggtac 480
ctcatcacc cggcctggct ttgggaaaag tacggcctga ggcccgaaca gtgggcccac 540
taccgggccc tgaccgggga cgagtccgac aaccttcccg ggggtcaagg catcggggag 600
aagacggcga ggaagcttct ggaggagtgg gggagcctgg aagccctcct caagaacctg 660
gaccggctga agcccgccat ccgggagaag atcctggccc acatggacga tctgaagctc 720
tcctgggacc tggccaaggt gcgcaccgac ctgcccctgg aggtggactt cgccaaaagg 780
cgggagcccg accgggaggg ggagaagccc cgggaggagg ccccttgccc cccgcccga 840
ggggccttcg tgggcttcct cctttccgc cccgagcca tgtgggcgga gcttaaagcc 900
ctggccgcct gcaggggcgg ccgcgtgcac cgggcagcag accccttgcc ggggctaaag 960
gacctcaagg aggtccgggg cctcctcgcc aaggacctcg ccgtcttgcc ctgagggag 1020
gggctagacc tcgtgcccgg ggacgacccc atgctcctcg cctacctcct ggacccttcg 1080
aacaccaccc ccgaggggggt ggcgcgccgc tacggggggg agtggacgga ggacgccgcc 1140
caccgggccc tcctctcgga gaggtccat cggaacctcc ttaagcgct cgagggggag 1200
gagaagctcc ttggtctta ccacgaggtg gaaaagcccc tctcccggt cctggcccat 1260
atggaggcca ccgggggtacg gcgggacgtg gcctaccttc aggcctttc cctggagctt 1320
gcggaggaga tccgccgcct cgaggaggag gtcttccgct tggcgggcca ccccttcaac 1380
ctcaactccc gggaccagct ggaaagggtg ctctttgacg agcttaggct tccgccttg 1440
aagaagacga agaagacagg caagcgctcc accagcgccg cgggtgctgga ggccctacgg 1500
gaggcccacc ccatcgtgga gaagatctc cagcaccggg agctcaccaa gctcaagaac 1560
acctacgtgg acccctccc aagcctcgtc caccgagga cgggcgcct ccacaccgc 1620
ttcaaccaga cggccacggc cacggggagg cttagtagct ccgaccccaa cctgcagaac 1680
atccccgtcc gcacccctt gggccagagg atccgcccgg ccttcgtggc cgaggcgggt 1740
tgggcgttg tggccctgga ctatagccag atagagctcc gcgtcctcgc ccacctctc 1800
ggggacgaaa acctgatcag ggtcttccag gaggggaagg acatccacac ccagaccgca 1860
agctggatgt tcggcgctcc cccggaggcc gtggaccccc tgatgcgccg ggccggccaag 1920
acggtgaact tcggcgctct ctacggcatg tccgcccata ggctctccca ggagcttgcc 1980
atcccctacg aggaggcggt ggcctttata gagcgctact tccaaagctt cccaagggtg 2040

cgggcctgga tagaaaagac cctggaggag gggaggaagc ggggctacgt ggaaaccctc 2100
 ttcggaagaa ggcgctacgt gcccgacctc aacgcccggg tgaagagcgt caggaggaggcc 2160
 gcggagcgca tggccttcaa catgcccgtc cagggcaccg ccgcccacct catgaagctc 2220
 gccatggtga agctcttccc ccgcctccgg gagatggggg cccgcatgct cctccaggtc 2280
 gccaacgagc tcctcctgga ggccccccaa gcgcggggccg aggaggtggc ggctttggcc 2340
 aaggaggcca tggagaaggc ctatcccctc gccgtgcccc tggaggtgga ggtggggatg 2400
 ggggaggact ggctttccgc caagggtcac caccaccacc accac 2445

<210> 580
 <211> 815
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 580

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30
 Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60
 Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Met Val Asp Leu Leu Gly Leu Glu Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp
 165 170 175

Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu
 195 200 205
 Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys
 210 215 220
 Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu Lys Leu
 225 230 235 240
 Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu Val Asp
 245 250 255
 Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Glu Lys Pro Arg Glu
 260 265 270
 Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu
 275 280 285
 Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys
 290 295 300
 Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys
 305 310 315 320
 Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu
 325 330 335
 Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu
 340 345 350
 Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala
 355 360 365
 Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu
 370 375 380
 Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu
 385 390 395 400
 Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg
 405 410 415
 Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr
 420 425 430
 Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu
 435 440 445
 Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg
 450 455 460
 Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu
 465 470 475 480

Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu
485 490 495

Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His
500 505 510

Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser
515 520 525

Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr
530 535 540

Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn
545 550 555 560

Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val
565 570 575

Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu
580 585 590

Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val
595 600 605

Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe
610 615 620

Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys
625 630 635 640

Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser
645 650 655

Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg
660 665 670

Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu
675 680 685

Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg
690 695 700

Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala
705 710 715 720

Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp
725 730 735

Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met
740 745 750

Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala
755 760 765

Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met
770 775 780

Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met
 785 790 795 800

Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His
 805 810 815

<210> 581
 <211> 2445
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 581
 atgaattccc tgccctcttt tgagcccaag ggcgggtgc ttctggtgga cggccaccac 60
 ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
 caggcgggtgt acgggtttgc caagagcctt ttgaaggcgc taagggaaga cggggatgtg 180
 gtgatcgtgg tctttgacgc cgaggccccc tccttcgcgc accagacctt cgaggcctac 240
 aaggcggggc gggctccac ccccgaggac tttcccggc agcttgccct tatcaaggag 300
 atggtggacc ttttgggctt taccgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
 ctggctaccc tggccaagaa ggcggaaaag gagggctacg aggtccgcct cctcaccgcc 420
 gacaaagacc tttaccagct cctttccgac cgcattccacg tcctccaccc cgaggggtac 480
 ctcatcacc cggcctggct ttgggaaaag tacggcctga ggcccagcca gtgggcccac 540
 taccgggccc tgaccgggga cgagtccgac aaccttcccg gggccaaggg catcggggag 600
 aagacggcga ggaagcttct ggaggagtgg gggagcctgg aagccctcct caagaacctg 660
 gaccggctga agcccgcct cccggagaag atcctggccc acatggacga tctgaagctc 720
 tcctgggacc tggccaaggt gcgcaccgac ctgcccctgg aggtggactt cgccaaaagg 780
 cgggagcccg accgggaggg ggagaagccc cgggaggagg cccctggcc cccgcccga 840
 ggggccttcg tgggcttctt cctttcccgc cccgagccca tgtgggcgga gcttaaagcc 900
 ctggccgcct gcagggggcg cgcgtgcac cgggcagcag accccttggc ggggctaagg 960
 gacctcaagg aggtccgggg cctcctcgcc aaggacctcg ccgtcttggc ctcgaggag 1020
 gggctagacc tcgtgcccgg ggacgacccc atgctcctcg cctacctcct ggacccttcg 1080
 aacaccaccc ccgagggggg ggcgcggcgc tacggggggg agtggacgga ggacgccgcc 1140
 caccgggccc tcctctcgga gaggtccat cggaacctcc ttaagcgctt cgagggggag 1200
 gagaagctcc tttggctcta ccacgaggtg gaaaagcccc tctcccgggt cctggcccat 1260

atggaggcca ccgggggtacg gcggggacgtg gcctaccttc aggccctttc cctggagctt 1320
 gcggaggaga tccgccgcct cgaggaggag gtcttccgct tggcgggcca ccccttcaac 1380
 ctcaactccc gggaccagct ggaaaggggtg ctctttgacg agcttaggct tcccgccttg 1440
 aagaagacga agaagacagg caagcgctcc accagcgccg cggtgctgga ggccctacgg 1500
 gaggcccacc ccatcgtgga gaagatcctc cagcaccggg agctcaccaa gctcaagaac 1560
 acctacgtgg accccctccc aagcctcgtc cacccgagga cgggccgcct ccacaccgc 1620
 ttcaaccaga cggccacggc cacggggagg cttagtagct ccgaccccaa cctgcagaac 1680
 atccccgtcc gcacccccctt gggccagagg atccgccggg ccttcgtggc cgaggcgggt 1740
 tgggcgttgg tggccctgga ctatagccag atagagctcc gcgtcctcgc ccacctctcc 1800
 ggggacgaaa acctgatcag ggtcttccag gaggggaagg acatccacac ccagaccgca 1860
 agctggatgt tcggcgtccc cccggaggcc gtggaccccc tgatgcgcgc ggcgccaag 1920
 acggtgaact tcggcgtcct ctacggcatg tccgccata ggctctcca ggagcttgcc 1980
 atcccctacg aggaggcgggt ggcctttata gagcgtact tccaaagctt cccaagggtg 2040
 cgggcctgga tagaaaagac cctggaggag gggaggaagc ggggctacgt ggaaaccctc 2100
 ttcggaagaa ggcgctacgt gcccgcctc aacgcccggg tgaagagcgt cagggaggcc 2160
 gcggagcgca tggccttcaa catgcccgtc cagggcaccg ccgccgacct catgaagctc 2220
 gccatggtga agctcttccc ccgcctccgg gagatggggg cccgcctgct cctccaggtc 2280
 gccaacgagc tctcctgga ggccccccaa gcgcggggccg aggaggtggc ggctttggcc 2340
 aaggaggcca tggagaaggc ctatcccctc gccgtgcccc tggaggtgga ggtggggatg 2400
 ggggaggact ggctttccgc caagggtcac caccaccacc accac 2445

<210> 582
 <211> 815
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 582

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15

Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30

Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60
 Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Met Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp
 165 170 175
 Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu
 180 185 190
 Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu
 195 200 205
 Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys
 210 215 220
 Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu Lys Leu
 225 230 235 240
 Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu Val Asp
 245 250 255
 Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Gly Glu Lys Pro Arg Glu
 260 265 270
 Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu
 275 280 285
 Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys
 290 295 300
 Arg Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys
 305 310 315 320
 Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu
 325 330 335

Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu
 340 345 350
 Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala
 355 360 365
 Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu
 370 375 380
 Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu
 385 390 395 400
 Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg
 405 410 415
 Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr
 420 425 430
 Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu
 435 440 445
 Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg
 450 455 460
 Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu
 465 470 475 480
 Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu
 485 490 495
 Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His
 500 505 510
 Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser
 515 520 525
 Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr
 530 535 540
 Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn
 545 550 555 560
 Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val
 565 570 575
 Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu
 580 585 590
 Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val
 595 600 605
 Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe
 610 615 620
 Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys
 625 630 635 640

Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser
 645 650 655
 Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg
 660 665 670
 Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu
 675 680 685
 Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg
 690 695 700
 Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala
 705 710 715 720
 Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp
 725 730 735
 Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met
 740 745 750
 Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala
 755 760 765
 Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met
 770 775 780
 Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met
 785 790 795 800
 Gly Glu Asp Trp Leu Ser Ala Lys Gly His His His His His His
 805 810 815

<210> 583
 <211> 2520
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 583
 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
 ggccaccacc tggcctaccg tacctttttt gccctgaagg gcctcaccac cagccggggg 120
 gagccggtcc aggcggtgta cgggtttgcc aagagccttt tgaaggcgct aagagaagac 180
 ggggacgcgg tgatcgtggt ctttgacgcc gagggccctt ccttccgcca cgaggcctac 240
 ggggggtaca aggcggggcg ggctcccacc cccgaggact ttccccggca gcttgcctt 300
 atcaaggagc tgggtggacct cctgggggttt acccgctcag aggtccccgg ctacgaggcg 360
 gacgacgttc tcgccaccct ggccaagaag gcggaaaagg aggggtacga ggtgcgcac 420
 ctcaccgccg acaaagacct ttaccagctc ctttccgacc gcatccacgt cctccacccc 480

gaggggtacc tcatcacccc ggcctggctt tgggaaaagt acggcctgag gcccgaccag 540
tgggccgact accgggccct gaccggggac gagtccgaca accttcccgg ggtcaagggc 600
atcggggaga agaccgccct caagctcctc aaggagtggg ggagcctgga agccctcctc 660
aagaacctgg accggctgaa gcccgccatc cgggagaaga tcctggccca catggacgat 720
ctgaagctct cctgggacct ggccaaggtg cgcaccgacc tgcccctgga ggtggacttc 780
gccaaaaggc gggagcccga ccgggagggg ctttaaggcct ttttggagag gctggagttc 840
ggcagcctcc tccacgagtt cggcctcctg ggaggggaga agccccggga ggaggccccc 900
tggccccgc cgggaagggc cttcgtgggc tttgtgcttt cccgcaagga gcccatgtgg 960
gccgatcttc tggccctggc cgctgcagg ggcggccgcg tgcaccgggc agcagacccc 1020
ttggcggggc taaaggacct caaggaggtc cggggcctcc tcgccaagga cctcgccgtc 1080
ttggcctcga gggaggggct agacctcgtg cccggggacg accccatgct cctcgccctac 1140
ctcctggacc cttcgaacac ccccccgag ggggtggcgc ggcgctacgg gggggagtgg 1200
acggaggacg ccgcccaccg ggccctcctc tcggagaggc tccatcggaa cctccttaag 1260
cgcctcgagg gggaggagaa gctcctttgg ctctaccacg aggtggaaaa gccctctcc 1320
cgggtcctgg cccatatgga ggccaccggg gtacggcggg acgtggccta ccttcaggcc 1380
ctttccctgg agcttgcgga ggagatccgc cgcctcgagg aggaggtctt ccgcttggcg 1440
ggccaccct tcaacctcaa ctcccgggac cagctggaaa gggtgctctt tgacgagctt 1500
aggcttcccg ccttgaagaa gacgaagaag acaggcaagc gctccaccag cgccgcggtg 1560
ctggaggccc tacgggaggc ccaccccatc gtggagaaga tcctccagca ccgggagctc 1620
accaagctca agaacaccta cgtggacccc ctcccagcc tcgtccaccc gaggacgggc 1680
cgcctccaca cccgcttcaa ccagacggcc acggccacgg ggaggcttag tagctccgac 1740
cccaacctgc agaacatccc cgtccgcacc cccttgggccc agaggatccg ccgggccttc 1800
gtggccgagg cgggttgggc gttggtggcc ctggactata gccagataga gctccgcgtc 1860
ctcgcccacc tctccgggga cgaaaacctg atcagggtct tccaggaggg gaaggacatc 1920
cacaccaga ccgcaagctg gatgttcggc gtcccccccg aggccgtgga ccccctgatg 1980
cgccgggcg ccaagacggt gaacttcggc gtcctctacg gcatgtccgc ccataggctc 2040
tcccaggagc ttgccatccc ctacgaggag gcggtggcct ttatagagcg ctacttccaa 2100
agcttcccca aggtgcgggc ctggatagaa aagaccctgg aggaggggag gaagcggggc 2160

tacgtggaaa ccctcttcgg aagaaggcgc tacgtgcccg acctcaacgc ccgggtgaag 2220
 agcgtcaggg aggccgcgga gcgcatggcc ttcaacatgc ccgtccaggg caccgccgcc 2280
 gacctcatga agctcgccat ggtgaagctc ttcccccgcc tccgggagat gggggcccgc 2340
 atgctcctcc aggtcgccaa cgagctcctc ctggaggccc cccaagcgcg ggccgaggag 2400
 gtggcggcctt tggccaagga ggccatggag aaggcctatc ccctcgccgt gcccctggag 2460
 gtggagggtg ggatggggga ggactggctt tccgccaagg gtcaccacca ccaccaccac 2520

<210> 584
 <211> 840
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 584

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Ala Val
 50 55 60
 Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala Tyr
 65 70 75 80
 Gly Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg
 85 90 95
 Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg
 100 105 110
 Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala
 115 120 125
 Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp
 130 135 140
 Lys Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro
 145 150 155 160
 Glu Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu
 165 170 175
 Arg Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser

180					185					190						
Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu	Lys	
195					200					205						
Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Ala	Leu	Leu	Lys	Asn	Leu	Asp	
210					215					220						
Arg	Leu	Lys	Pro	Ala	Ile	Arg	Glu	Lys	Ile	Leu	Ala	His	Met	Asp	Asp	
225					230					235					240	
Leu	Lys	Leu	Ser	Trp	Asp	Leu	Ala	Lys	Val	Arg	Thr	Asp	Leu	Pro	Leu	
245					250					255						
Glu	Val	Asp	Phe	Ala	Lys	Arg	Arg	Glu	Pro	Asp	Arg	Glu	Gly	Leu	Lys	
260					265					270						
Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu	Phe	Gly	
275					280					285						
Leu	Leu	Gly	Gly	Glu	Lys	Pro	Arg	Glu	Glu	Ala	Pro	Trp	Pro	Pro	Pro	
290					295					300						
Glu	Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Lys	Glu	Pro	Met	Trp	
305					310					315					320	
Ala	Asp	Leu	Leu	Ala	Leu	Ala	Ala	Cys	Arg	Gly	Gly	Arg	Val	His	Arg	
325					330					335						
Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val	Arg	Gly	
340					345					350						
Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly	Leu	Asp	
355					360					365						
Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu	Asp	Pro	
370					375					380						
Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly	Glu	Trp	
385					390					395					400	
Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu	His	Arg	
405					410					415						
Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp	Leu	Tyr	
420					425					430						
His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	Glu	Ala	
435					440					445						
Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser	Leu	Glu	
450					455					460						
Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg	Leu	Ala	
465					470					475					480	
Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu	

485										490					495				
Phe	Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu	Lys	Lys	Thr	Lys	Lys	Thr	Gly				
			500					505					510						
Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu	Ala	His				
		515					520					525							
Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys	Leu	Lys				
		530				535					540								
Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg	Thr	Gly				
545					550					555					560				
Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu				
				565					570					575					
Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu				
			580					585					590						
Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp	Ala	Leu				
		595					600					605							
Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu				
		610				615					620								
Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys	Asp	Ile				
625					630					635					640				
His	Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu	Ala	Val				
				645					650					655					
Asp	Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	Val	Leu				
			660					665					670						
Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile	Pro	Tyr				
		675					680					685							
Glu	Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys				
		690				695					700								
Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys	Arg	Gly				
705					710					715					720				
Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Asn				
				725					730					735					
Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn				
			740					745					750						
Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala	Met	Val				
			755				760					765							
Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu	Leu	Gln				
			770			775					780								
Val	Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala	Glu	Glu				

785		790		795		800									
Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro	Leu	Ala
			805						810					815	
Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu	Ser	Ala
			820					825					830		
Lys	Gly	His	His	His	His	His	His								
		835					840								

<210> 585
 <211> 2499
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 585
 atgaattccc tgccctctt tgagcccaag agccgggtgc ttctggtgga cggccaccac 60
 ctggcctacc gcacctctt cgccctgaag ggcctcacca ccagccgcgg ggagccggtg 120
 cagatggtct acggcttcgc ccggagcctc ctcaaggcct tgaaggagga cggacaggcg 180
 gtggtcgtgg tctttgacgc caaggccccc tcttccgcc acgaggccta cgaggcctac 240
 aaggcgggccc gggccccccac cccggaggac ttccccggca gctcgccctt atcaaggaga 300
 tgggtggacct tttgggcctg gcgcgcctcg aggtcccggg ctacgaggcg gacgacgttc 360
 tcgccaccct ggccaagaag gcggaaaagg aggggtacga ggtgcgcatt ctaccgccga 420
 ccgcgacctc taccaactcg tctccgaccg cgtcgccgtc ctccaccccg agggccacct 480
 catcaccocg gagtggcttt gggagaagta cggcctcagg ccggagcagt ggggtggactt 540
 ccgcgccttc gtgggggacc cctccgacaa cctccccggg gtcaagggca tcggggagga 600
 gacggcggcc aagctgatcc gggagtgggg aagcctggaa aaccttctta agcacctgga 660
 acaggcgaaa cctgcctccg tgcgggagaa gatccttagc cacatggagg acctcaagct 720
 atccctggag ctatcccggg tgcacacgga cttgcttctt cagtggactt taaggccctg 780
 cgccgcagga ccccccacct ggagggcctg agggcctttt tggaggagct ggagttcggc 840
 agcctcctcc acgagttcgg cctcctggag gccccgcgg cggcggagga agctccctgg 900
 ccgccccccg agggagcctt cgtgggggtac gttctttccc gccccgagcc catgtgggcg 960
 gagcttaacg ccttgggcgc cgcctggggc ggccgcgtgc accgggcagc agacccttg 1020
 gcgggggctaa aggacctcaa ggaggtccgg ggcctcctcg ccaaggacct cgccgtcttg 1080
 gcctcgaggg aggggctaga cctcgtgccc ggggacgacc ccatgctcct cgccctacctc 1140

ctggaccctt cgaacaccac ccccgagggg gtggcgcggc gctacggggg ggagtggacg 1200
gaggacgccg cccaccgggc cctcctctcg gagaggctcc atcggaacct ccttaagcgc 1260
ctcgaggggg aggagaagct cctttggctc taccacgagg tggaaaagcc cctctcccgg 1320
gtcctggccc atatggaggc caccggggta cggcgggacg tggcctacct tcaggccctt 1380
tccctggagc ttgcgaggga gatccgccgc ctcgaggagg aggtcttccg cttggcgggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tgctctttga cgagcttagg 1500
cttcccgcct tgaagaagac gaagaagaca ggcaagcgct ccaccagcgc cgcggtgctg 1560
gaggccctac gggaggccca ccccatcgtg gagaagatcc tccagcaccg ggagctcacc 1620
aagctcaaga acacctacgt ggacccccctc ccaagcctcg tccacccgag gacgggccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggga ggcttagtag ctccgacccc 1740
aacctgcaga acatccccgt ccgcaccccc ttggggcaga ggatccgccg ggccttcgtg 1800
gccgaggcgg gttgggcgtt ggtggccctg gactatagcc agatagagct ccgcgtcctc 1860
gcccacctct ccggggacga aaacctgatc agggctcttc aggaggggaa ggacatccac 1920
accagaccg caagctggat gttcggcgtc ccccgagg ccgtggacce cctgatgcgc 1980
cgggcggcca agacggtgaa cttcggcgtc ctctacggca tgtccgcca taggctctcc 2040
caggagcttg ccatccccta cgaggaggcg gtggccttta tagagcgcta cttccaaagc 2100
ttccccaagg tgcgggcctg gatagaaaag acctggagg aggggaggaa gcggggctac 2160
gtggaaaccc tcttcggaag aaggcgctac gtgcccgacc tcaacgcccg ggtgaagagc 2220
gtcaggagg cgcggagcg catggccttc aacatgcccg tccagggcac cgcgcgcgac 2280
ctcatgaagc tcgccatggt gaagctcttc cccgcctcc gggagatggg ggcccgcag 2340
ctcctccagg tcgccaacga gctcctcctg gaggccccc aagcgcgggc cgaggaggtg 2400
gcggccttgg ccaaggaggc catggagaag gcctatcccc tcgccgtgcc cctggaggtg 2460
gaggtgggga tgggggagga ctggccttcc gccaaagggt 2499

<210> 586
<211> 811
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 586

Met Glu Phe Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys Gly Leu
 20 25 30
 Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala Lys
 35 40 45
 Ser Leu Leu Lys Ala Leu Arg Glu Asp Gly Asp Val Val Ile Val Val
 50 55 60
 Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly Gly Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu Glu Val
 100 105 110
 Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Gly Asp Arg Asp Leu
 130 135 140
 Tyr Gln Leu Val Ser Asp Arg Val Ala Arg Pro Glu Gln Trp Val Asp
 145 150 155 160
 Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile Pro Gly Val Lys
 165 170 175
 Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu Glu Trp Gly Ser
 180 185 190
 Val Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys Pro Ala Ile Arg
 195 200 205
 Glu Lys Ile Leu Ala His Met Glu Asp Leu Lys Leu Ser Leu Glu Leu
 210 215 220
 Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly
 225 230 235 240
 Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe Leu Glu Arg Leu Glu
 245 250 255
 Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ser Pro Val Ala
 260 265 270
 Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Tyr
 275 280 285
 Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Asn Ala Leu Ala
 290 295 300

Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly
305 310 315 320

Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala
325 330 335

Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro
340 345 350

Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly
355 360 365

Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg
370 375 380

Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu
385 390 395 400

Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu
405 410 415

Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val
420 425 430

Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg
435 440 445

Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn
450 455 460

Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro
465 470 475 480

Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala
485 490 495

Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu
500 505 510

Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu
515 520 525

Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn
530 535 540

Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu
545 550 555 560

Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala
565 570 575

Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln
580 585 590

Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile
595 600 605

Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp
 610 615 620
 Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala
 625 630 635 640
 Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg
 645 650 655
 Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile
 660 665 670
 Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys
 675 680 685
 Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly
 690 695 700
 Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg
 705 710 715 720
 Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala
 725 730 735
 Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg
 740 745 750
 Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu
 755 760 765
 Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu
 770 775 780
 Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val
 785 790 795 800
 Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
 805 810

<210> 587
 <211> 2433
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 587
 atggaattcc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
 ctggcctacc gcaccttcca cgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
 caggcggtgt acgggtttgc caagagcctt ttgaaggcgc taagagaaga cggggatgtg 180
 gtgatcgtgg tctttgacgc caaggccccc tccttcgcc acgaggccta cggggggtac 240

aaggcgggac gggcccgac ccccgaggac ttcccccggc agctcgccct catcaaggag 300
ctggtggacc tectggggct ggcgcgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gagggctacg aggtgcgcat tctcaccggc 420
gaccgcgacc tttaaccaact cgtctccgac cgcgtcgcca ggccggagca gtgggtggac 480
taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 540
aagacggcga ggaagcttct ggaggagtgg gggagcgtgg aagccctcct caagaacctg 600
gaccggctga agcccgccat ccgggagaag atcctggccc acatggagga cctcaagcta 660
tccctggagc tatcccgggt gcgcaccgac ctccccctgg aggtggacct cgcccagggg 720
cgggagcccc accgggaggg gcttaaggcc tttttggaga ggctggagtt cggaagcctc 780
ctccacgagt tcggcctgtt ggaaagcccc gtggcggcgg aggaagctcc ctggccgccc 840
cccgagggag ccttcgtggg gtacgttctt tcccgcctcg agcccatgtg ggcggagctt 900
aacgccttgg ccgcgcctg gggcgccgc gtgcaccggg cagcagacct cttggcgggg 960
ctaaaggacc tcaaggaggt ccggggcctc ctgcgaagg acctcgccgt cttggcctcg 1020
agggaggggc tagacctcgt gcccggggac gaccccatgc tctcgccta cctcctggac 1080
ccttcgaaca ccacccccga gggggtggcg cggcgctacg ggggggagtg gacggaggac 1140
gccgcccacc gggccctcct ctcgagagg ctccatcgga acctccttaa gcgcctcgag 1200
ggggaggaga agctcctttg gctctaccac gaggtggaaa agccctctc ccgggtcctg 1260
gcccataatg aggccaccgg ggtacggcgg gacgtggcct accttcaggc cttttccctg 1320
gagcttgccg aggatccg ccgcctcgag gaggaggtct tccgcttggc gggccacccc 1380
ttcaacctca actcccggga ccagctggaa aggtgctct ttgacgagct taggcttccc 1440
gccttgaaga agacgaagaa gacaggcaag cgctccacca gcgcgcgggt gctggaggcc 1500
ctacgggagg cccaccccat cgtggagaag atcctccagc accgggagct caccaagctc 1560
aagaacacct acgtggacct cctcccaagc ctgcctccac cgaggacggg ccgcctccac 1620
acccgcttca accagacggc cacggccacg gggaggctta gtagctccga cccaacctg 1680
cagaacatcc ccgtccgcac ccccttgggc cagaggatcc gccgggcctt cgtggccgag 1740
gcgggttggg cgttggtggc cctggactat agccagatag agctccgcgt cctcgccac 1800
ctctccgggg acgaaaacct gatcagggtc ttccaggagg ggaaggacat ccacaccag 1860
accgcaagct ggatgttcgg cgtccccccg gaggccgtgg acccctgat gcgcccggcg 1920
gccaagacgg tgaacttcgg cgtcctctac ggcattgtcc cccataggct ctcccaggag 1980

cttgccatcc cctacgagga ggcggtggcc tttatagagc gctacttcca aagcttcccc 2040
 aaggtgcggg cctggataga aaagaccctg gaggagggga ggaagcgggg ctacgtggaa 2100
 accctcttcg gaagaaggcg ctacgtgccc gacctcaacg cccgggtgaa gagcgtcagg 2160
 gaggcgcggg agcgcattggc cttcaacatg cccgtccagg gcaccgccgc cgacctcatg 2220
 aagctcgcca tggatgaagct cttccccgcg ctccgggaga tgggggcccg catgctcctc 2280
 caggtcgcca acgagctcct cctggaggcc cccaagcgc gggccgagga ggtggcggct 2340
 ttggccaagg aggccatgga gaaggcctat cccctcgccg tgcccctgga ggtggagggtg 2400
 gggatggggg aggactggct ttccgccaag ggt 2433

<210> 588
 <211> 811
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 588

Met	Glu	Phe	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	Leu	Leu	Val	1	5	10	15
Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	His	Ala	Leu	Lys	Gly	Leu	20	25	30	
Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	Phe	Ala	Lys	35	40	45	
Ser	Leu	Leu	Lys	Ala	Leu	Arg	Glu	Asp	Gly	Asp	Val	Val	Ile	Val	Val	50	55	60	
Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	Tyr	Gly	Gly	Tyr	65	70	75	80
Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	Arg	Gln	Leu	Ala	85	90	95	
Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Leu	Ala	Arg	Leu	Glu	Val	100	105	110	
Pro	Gly	Phe	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	Ala	Lys	Lys	Ala	115	120	125	
Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Gly	Asp	Arg	Asp	Leu	130	135	140	
Tyr	Gln	Leu	Val	Ser	Asp	Arg	Val	Ala	Arg	Pro	Glu	Gln	Trp	Val	Asp	145	150	155	160

Tyr Arg Ala Leu Ala Gly Asp Pro Ser Asp Asn Ile Pro Gly Val Lys
 165 170 175
 Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu Glu Trp Gly Ser
 180 185 190
 Val Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys Pro Ala Ile Arg
 195 200 205
 Glu Lys Ile Leu Ala His Met Glu Asp Leu Lys Leu Ser Leu Glu Leu
 210 215 220
 Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp Leu Ala Gln Gly
 225 230 235 240
 Arg Glu Pro Asp Arg Glu Gly Leu Lys Ala Phe Leu Glu Arg Leu Glu
 245 250 255
 Phe Gly Ser Leu Leu His Glu Phe Gly Leu Leu Glu Ser Pro Val Ala
 260 265 270
 Ala Glu Glu Ala Pro Trp Pro Pro Glu Gly Ala Phe Val Gly Tyr
 275 280 285
 Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu Asn Ala Leu Ala
 290 295 300
 Ala Ala Trp Gly Gly Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly
 305 310 315 320
 Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala
 325 330 335
 Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro
 340 345 350
 Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly
 355 360 365
 Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg
 370 375 380
 Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu
 385 390 395 400
 Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu
 405 410 415
 Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val Arg Arg Asp Val
 420 425 430
 Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg
 435 440 445
 Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn
 450 455 460

Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro
 465 470 475 480
 Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala
 485 490 495
 Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu
 500 505 510
 Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu
 515 520 525
 Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn
 530 535 540
 Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu
 545 550 555 560
 Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala
 565 570 575
 Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln
 580 585 590
 Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile
 595 600 605
 Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp
 610 615 620
 Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala
 625 630 635 640
 Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg
 645 650 655
 Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile
 660 665 670
 Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys
 675 680 685
 Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly
 690 695 700
 Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg
 705 710 715 720
 Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala
 725 730 735
 Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg
 740 745 750
 Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu
 755 760 765

Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu
770 775 780
Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val
785 790 795 800
Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
805 810

<210> 589
<211> 2493
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 589
atgaattccc tgccctcttt tgagcccaag ggccgggtcc tcctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca cctcccgggg ggagccggtg 120
cagatggtct acggcttcgc ccggagcctc ctcaaggccc tcaaggagga cggggacgcg 180
gtgatcgtgg tctttgacgc cgaggccccc tccttcgcgc accagacctc cgaggcctac 240
aaggcgggga gggctccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300
ctggtggacc tcctggggtt taccgcctc gaggtccccg gctacgaggc ggacgacgtt 360
ctcgccaccc tggccaagaa ggcggaaaag gagggctacg aggtgcgcat cctcaccgcg 420
gaccgggacc ttaccagct tctttccgac cgcattcacg tccttcaccc cgaggggtac 480
ctcatcacc cggcctggct ttgggaaaag tacggcttga ggcccgacca gtgggcccgc 540
taccgggccc tgaccgggga cgaatccgac aacctttccg gggccaaggg catcggggag 600
aagacggcga ggaagcttct ggaggagtgg gggagcctgg aagccctcct caagaacctg 660
gaccggctga agcccgccat ccgggagaag atcctggccc acatggacga tctgaagctc 720
tccttgagac tctcccgggt gcgcaccgac ctccccctgg aggtggactt cgccaaaagg 780
cgggagcccc accgggagag gcttagggcc tttctggaga ggcttgagtt tggcagcctc 840
ctccacgagt tcggcccttt ggaaagcccc agggccgcgg aggaagctcc ctggccgccc 900
cccgagggag ccttcgtggg gtacgttctt tcccggcccc agcccatgtg ggcggagctt 960
aacgccttgg ccgccgccag gggcggccgc gtgcaccggg cagcagaccc cttggcgggg 1020
ctaaaggacc tcaaggaggt ccggggcctc ctgcccaagg acctcgccgt cttggcctcg 1080
agggaggggg tagacctcgt gcccggggac gaccccatgc tcctcgccca cctcctggac 1140

ccttcgaaca ccacccccga gggggtggcg cggcgctacg ggggggagtg gacggaggac 1200
gccgcccacc gggccctcct ctoggagagg ctccatcgga acctccttaa gcgcctcgag 1260
ggggaggaga agctcctttg gctctaccac gaggtggaaa agccccctctc ccgggtcctg 1320
gcccatatgg aggccaccgg ggtacggcgg gacgtggcct accttcaggg cctttccctg 1380
gagcttgagg aggagatccg ccgcctcgag gaggaggtct tccgcttggc gggccacccc 1440
ttcaacctca actcccggga ccagctggaa aggggtgctct ttgacgagct taggcttccc 1500
gccttgaaga agacgaagaa gacaggcaag cgctccacca gcgccgcggg gctggaggcc 1560
ctacgggagg cccaccccat cgtggagaag atcctccagc accgggagct caccaagctc 1620
aagaacacct acgtggaccc cctcccaagc ctcgccacc cgaggacggg ccgcctccac 1680
accgcttca accagacggc cacggccacg gggaggctta gtagctccga ccccaacctg 1740
cagaacatcc ccgtccgcac ccccttgggc cagaggatcc gccgggcctt cgtggccgag 1800
gcgggttggg cgttggtggc cctggactat agccagatag agtccgcgt cctcgccac 1860
ctctccgggg acgaaaacct gatcagggtc ttccaggagg ggaaggacat ccacaccag 1920
accgcaagct ggatgttcgg cgtccccccg gaggcggtgg accccctgat gcgccgggcg 1980
gccaagacgg tgaacttcgg cgtcctctac ggcattgccc cccataggct ctcccaggag 2040
cttgccatcc cctacgagga ggcggtggcc tttatagagc gctacttcca aagcttcccc 2100
aaggtgcggg cctggataga aaagaccctg gaggagggga ggaagcgggg ctacgtggaa 2160
accctcttcg gaagaaggcg ctacgtgccg gacctcaacg cccgggtgaa gagcgtcagg 2220
gaggccgcgg agcgcatggc cttcaacatg cccgtccagg gcaccgccgc cgacctcatg 2280
aagctcgcca tggatgaagct cttccccgc ctccgggaga tgggggcccg catgctcctc 2340
caggtcgcca acgagctcct cctggaggcc cccaagcgc gggccgagga ggtggcggct 2400
ttggccaagg aggccatgga gaaggcctat cccctcgccg tgcccctgga ggtggagggtg 2460
gggatggggg aggactggct ttccgccaag ggt 2493

<210> 590
<211> 831
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 590

Met Asn Ser Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu Leu Val
 1 5 10 15
 Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly Leu
 20 25 30
 Thr Thr Ser Arg Gly Glu Pro Val Gln Met Val Tyr Gly Phe Ala Arg
 35 40 45
 Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile Val Val
 50 55 60
 Phe Asp Ala Glu Ala Pro Ser Phe Arg His Gln Thr Tyr Glu Ala Tyr
 65 70 75 80
 Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln Leu Ala
 85 90 95
 Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu Glu Val
 100 105 110
 Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys Lys Ala
 115 120 125
 Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg Asp Leu
 130 135 140
 Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu Gly Tyr
 145 150 155 160
 Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg Pro Asp
 165 170 175
 Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp Asn Leu
 180 185 190
 Ser Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu Leu Glu
 195 200 205
 Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg Leu Lys
 210 215 220
 Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu Lys Leu
 225 230 235 240
 Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu Glu Val Asp
 245 250 255
 Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala Phe Leu
 260 265 270
 Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Pro Leu Glu
 275 280 285
 Ser Pro Arg Ala Ala Glu Glu Ala Pro Trp Pro Pro Pro Glu Gly Ala
 290 295 300

Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro Met Trp Ala Glu Leu
305 310 315 320

Asn Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala Ala Asp
325 330 335

Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu Leu Ala
340 345 350

Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu Val Pro
355 360 365

Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser Asn Thr
370 375 380

Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr Glu Asp
385 390 395 400

Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn Leu Leu
405 410 415

Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp Leu Tyr His Glu Val
420 425 430

Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr Gly Val
435 440 445

Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu Ala Glu
450 455 460

Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg Leu Ala Gly His Pro
465 470 475 480

Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu
485 490 495

Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys Thr Gly Lys Arg Ser
500 505 510

Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro Ile Val
515 520 525

Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn Thr Tyr
530 535 540

Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg Leu His
545 550 555 560

Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser
565 570 575

Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg
580 585 590

Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val Ala Leu
595 600 605

Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp
610 615 620

Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His Thr Gln
625 630 635 640

Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp Pro Leu
645 650 655

Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met
660 665 670

Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu Ala
675 680 685

Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala
690 695 700

Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr Val Glu
705 710 715 720

Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn Ala Arg Val
725 730 735

Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val
740 745 750

Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys Leu Phe
755 760 765

Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln Val Ala Asn
770 775 780

Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu Val Ala Ala
785 790 795 800

Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala Val Pro Leu
805 810 815

Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala Lys Gly
820 825 830

<210> 591
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 591
agaaaggaag ggaagaaagc gaa

23

<210> 592
<211> 45
<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 592

tggaggtcaa aacatcgata agtcgaagaa aggaagggaa gaaat

45

<210> 593

<211> 14

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 593

tgttttgacc tcca

14

<210> 594

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 594

ggcgaccaca cccgtcctgt

20

<210> 595

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 595

ccacgatgcg tccggcgtag

20

<210> 596

<211> 26

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 596

acgggtcaat gtccatgccc caaaga

26

<210> 597
<211> 41
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (23)..(23)
<223> /note= "The residue at this position indicates 2' o-methyl sugar"

<400> 597
gtctgagatg aaagtgctcc cgcacccacc caaggcacag c 41

<210> 598
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 598
tcttcgcaca tttcatctca gacgga 26

<210> 599
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(17)
<223> /note= "The residues at these positions are 2' o-methyl sugars"

<400> 599
gctgtgcctt gggtggg 17

<210> 600
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(21)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 600
gctgtgcctt gggtaggtgc g 21

<210> 601
<211> 28
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 601
aacgaggcgc acccaccctaa ggcacagc 28

<210> 602
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (23)..(27)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 602
gtctgagatg aaagtgcgcc tcgttaa 27

<210> 603
<211> 28
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 603
aacgaggcgc acccaccctaa ggcacagc 28

<210> 604
<211> 23
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 604

tcttcgcaca tttcatctca gac

23

<210> 605

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 605

gctgtgcctt gggtaggtgc g

21

<210> 606

<211> 26

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 606

tcttcgcaca tttcatctca gacgga

26

<210> 607

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 607

gctgtgcctt gggtaggtgc

20

<210> 608

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<220>

<221> modified_base

<222> (15)..(20)

<223> /note= "The residues at these positions are 2' o-methyl sugars"

<400> 608
gctgtgcctt gggtaggtgc 20

<210> 609
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(20)
<223> /note= "The residues at these positions are 2' o-methyl sugars"

<400> 609
gctgtgcctt gggtaggtgc 20

<210> 610
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 610
acgggtcaat gtccatgccc caaaga 26

<210> 611
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 611
aacgaggcgc acccacccaa ggcacagc 28

<210> 612
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (23)..(27)

<223> /note= "The residues at these positions are 2' o-methyls"

<400> 612
gtctgagatg aaagtgcgcc tcgttaa

27

<210> 613
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(17)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 613
gctgtgcctt gggtggg

17

<210> 614
<211> 19
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(19)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 614
gctgtgcctt gggtgggtg

19

<210> 615
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(21)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 615
gctgtgcctt gggtgggtgc g

21

<210> 616
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (1)..(22)
<223> /note= "The residues at these positions are 2' o-methyls"

<400> 616
gctgtgcctt gggtgggtgc gc

22

<210> 617
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 617
ccgtcaacat ttaccatggg tgcgga

26

<210> 618
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 618
ccgccacctc gtagtcgaca tccttttcgt g

31

<210> 619
<211> 29
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 619
ttgataaatt tggggtggaa aggtttgga

29

<210> 620
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 620
agaactgaga ggaggcg

17

<210> 621
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 621
aacgaggcgc accaaactca ctcac

25

<210> 622
<211> 35
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 622
gtcatgtagg cttctatgta gttgatgaag atgta

35

<210> 623
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 623
ggctttgtag atgcctttct cttgga

26

<210> 624
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 624
atgagtgagt ttggtgcg 18

<210> 625
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 625
ccaggaagca agtggtgcgc ctcgttt 27

<210> 626
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 626
aacgaggcgc accttggagg ca 22

<210> 627
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 627
aaggtttcct tctcagttgt gtta 24

<210> 628
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 628
gcaaagatgt ctggttacggt caactc 26

<210> 629
<211> 16
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 629

tgcctccaag gtgcgc

16

<210> 630

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 630

aacgaggcgc accttcaaaa tgcctaa

27

<210> 631

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 631

tgtcactctc ctctttccaa tta

23

<210> 632

<211> 29

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 632

gaaaagagtt ccattatccg ctacatctg

29

<210> 633

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 633

ttaggcattt tgaaggtgcg c

21

<210> 634

<211> 23

<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 634
aacgaggcgc accgttgtgt ccc

23

<210> 635
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 635
gggatgtaga agccattcag a

21

<210> 636
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 636
ttgttgtgct gtgggggatg

20

<210> 637
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 637
gggacacaac ggtgcgc

17

<210> 638
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 638
ccgtcacgcc tccaccatat ccc

23

<210> 639
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 639
ccagcgggtt ccattggcaa agatcaa

27

<210> 640
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 640
cggaagaatg ggtagaccat g

21

<210> 641
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 641
gggatatggt ggaggcg

17

<210> 642
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 642
aacgaggcgc accgttccag gc

22

<210> 643
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 643
catatccatg cagcaccacc atga

24

<210> 644
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 644
caaaatacag agtgaacaca gggcc

25

<210> 645
<211> 16
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 645
gcctggaacg gtgcgc

16

<210> 646
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 646
ccgtcacgcc tcatgcataa tgccc

25

<210> 647
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 647
caggtgagaa aaggcattac agatagtgaa agc

33

<210> 648
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 648

cagaggaaag agagctgcag gg

22

<210> 649

<211> 19

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 649

gggcattatc catgaggcg

19

<210> 650

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 650

ccgtcacgcc tccctgctga gaaa

24

<210> 651

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 651

cccgaggcat gcacggcgga

20

<210> 652

<211> 15

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 652

ggcaggaagg cctcc

15

<210> 653

<211> 18

<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 653
tttctcagca gggaggcg

18

<210> 654
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 654
ccgtcacgcc tcgccccaca

20

<210> 655
<211> 28
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 655
cagcacaggc tggtgaccat cataaaac

28

<210> 656
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 656
cttttccata ctttttatga cattc

25

<210> 657
<211> 14
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 657
tgtggggcga ggcg

14

<210> 658
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 658
aacgaggcgc acagttgacc ttc

23

<210> 659
<211> 19
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 659
gtgatggcca gcacagggc

19

<210> 660
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 660
atacgttccc cacatttttc

20

<210> 661
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 661
tgaaggtcaa ctgtgcgc

18

<210> 662
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 662
aacgaggcgc acgtcataaa tacccc

26

<210> 663
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 663
gccagcatag gctgttgaca c

21

<210> 664
<211> 28
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 664
agacttttct atacttttta taacattc

28

<210> 665
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 665
ggggtattta tgacgtgcgc

20

<210> 666
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 666
ccgtcacgcc tcctgtctgt gat

23

<210> 667
<211> 22
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 667

tcctgacagt gctcaatcag ga

22

<210> 668

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 668

tcctgacaat gctcaatgag ga

22

<210> 669

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 669

gtcccggatg tggccc

16

<210> 670

<211> 17

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 670

atcacagaca ggaggcg

17

<210> 671

<211> 26

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 671

aacgaggcgc acggactgtt ttctgc

26

<210> 672

<211> 27

<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 672
cttgtcaaag tcctgatagt gctcctc

27

<210> 673
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 673
cttggtgaag tcttgatagt gttcctc

27

<210> 674
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 674
gcagaaaaca gtccgtgcgc

20

<210> 675
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 675
ccgtcacgcc tcactgcggt cat

23

<210> 676
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 676
gtggataact gcatcagtgt atggcatttt c

31

<210> 677
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 677
caagggttgg tagcctgtgt gagcc

25

<210> 678
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 678
atgaccgcag tgaggcg

17

<210> 679
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 679
ccgtcacgcc tcagagccaa tcac

24

<210> 680
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 680
cgatcatcaa gggatggtgg cctgtgc

27

<210> 681
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 681
ctgatcaatc tccttttgga ctttctctgc g 31

<210> 682
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 682
gtgattggct ctgaggcg 18

<210> 683
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 683
ccgtcacgcc tcctcttcaa tttctg 26

<210> 684
<211> 26
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 684
ccctgtcaat ttcttcatga agttta 26

<210> 685
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 685
ggtatttcat gaggatcagg agc 23

<210> 686
<211> 20
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 686

cagaaattga agaggaggcg

20

<210> 687

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 687

aacgaggcgc accgggtccc a

21

<210> 688

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 688

tcccctgttt cttgaaaagt ccatgtgtga

30

<210> 689

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 689

aatccgtaga ggagcaccag g

21

<210> 690

<211> 15

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 690

tgggacccgg tgcgc

15

<210> 691

<211> 21

<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 691
ccgtcacgcc tcctcggcag g

21

<210> 692
<211> 29
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 692
cacaatatcg taggtaggag gtgccttaa

29

<210> 693
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 693
gccccatcga tctcctcc

18

<210> 694
<211> 15
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 694
cctgccgagg aggcg

15

<210> 695
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 695
aacgaggcgc actaggcttt gct

23

<210> 696
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 696
ttcatgtagt cagggtcata gacaattaag a

31

<210> 697
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 697
tccccagaac catcgaggaa agg

23

<210> 698
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 698
agcaaagcct agtgcg

17

<210> 699
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 699
aacgaggcgc acagaaggcc cctt

24

<210> 700
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 700
ccttgaacag caccagaaat agactgagca c 31

<210> 701
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 701
ggaagaaccc agagacacca tcc 23

<210> 702
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 702
aaggggcctt ctgtgcgc 18

<210> 703
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 703
aacgaggcgc acgttgtgat acctt 25

<210> 704
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 704
gatgaaggcc ataaattaaa attgtgc 27

<210> 705
<211> 16
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 705

tgggtatgga acgtcc

16

<210> 706

<211> 19

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 706

aaggtatcac aacgtgcgc

19

<210> 707

<211> 14

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 707

cccccttttg gggg

14

<210> 708

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 708

ccctatcttt aaagttttta aaaagtttga

30


```

tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
cgcgctctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggccttacg tgcccgacct caacgcccg 2220
gtgaagagcg tcaggagggc cgcgagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

```

```

<210> 376
<211> 842
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 376

```

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20          25          30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35          40          45
Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50          55          60
Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65          70          75          80
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85          90          95

```

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Lys Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 377
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 377
gagaggctcc atcggaagaa gcttaagcgc ctcgag

36

<210> 378
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 378
ccgatggagc ctctccga

18

<210> 379
<211> 2526
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 379

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcctg ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgaggctcc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgga cctctaccaa ctctctccg accgcgtcgc cgtcctccac	480
cccgaggggc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag	540
cagtgggtgg acttcgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg	780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc	960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca	1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg	1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaagaag	1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc	1320
ctctccccgg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt	1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgc	1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac	1500
gagcttaggc ttccgcctt gaagaagacg aagaagacag gcaagcgtc caccagcgcc	1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg	1620

gagctcacca agctcaagaa cacctacgtg gacccccctcc caagcctcgt ccacccgagg 1680
 acggggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
 tccgacccca acctgcagaa catccccgtc cgcacccccct tgggccagag gatccgccgg 1800
 gccttcgtgg ccgaggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
 gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
 aggctctccc aggagcttgc catccccctac gaggagcggg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga agggcctacg tgcccgacct caacgcccgg 2220
 gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
 caccac 2526

<210> 380
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 380

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val
1				5					10					15	
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu
			20					25					30		
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly
		35					40					45			
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala
	50					55				60					
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala

65	70	75	80
Tyr Glu Ala Tyr	Lys Ala Gly Arg Ala	Pro Thr Pro Glu Asp	Phe Pro
	85	90	95
Arg Gln Leu Ala	Leu Ile Lys Glu Leu Val	Asp Leu Leu Gly	Phe Thr
	100	105	110
Arg Leu Glu Val	Pro Gly Tyr Glu Ala Asp	Asp Val Leu Ala Thr	Leu
	115	120	125
Ala Lys Lys Ala	Glu Lys Glu Gly Tyr Glu Val	Arg Ile Leu Thr	Ala
	130	135	140
Asp Arg Asp Leu	Tyr Gln Leu Val Ser Asp	Arg Val Ala Val Leu	His
	145	150	155
Pro Glu Gly His	Leu Ile Thr Pro Glu Trp	Leu Trp Glu Lys Tyr	Gly
	165	170	175
Leu Arg Pro Glu	Gln Trp Val Asp Phe Arg	Ala Leu Val Gly Asp	Pro
	180	185	190
Ser Asp Asn Leu	Pro Gly Val Lys Gly Ile Gly	Glu Lys Thr Ala Leu	
	195	200	205
Lys Leu Leu Lys	Glu Trp Gly Ser Leu Glu Asn	Leu Leu Lys Asn Leu	
	210	215	220
Asp Arg Val Lys	Pro Glu Asn Val Arg Glu Lys	Ile Lys Ala His Leu	
	225	230	235
Glu Asp Leu Arg	Leu Ser Leu Glu Leu Ser	Arg Val Arg Thr Asp	Leu
	245	250	255
Pro Leu Glu Val	Asp Leu Ala Gln Gly Arg	Glu Pro Asp Arg Glu Gly	
	260	265	270
Leu Arg Ala Phe	Leu Glu Arg Leu Glu Phe Gly	Ser Leu Leu His Glu	
	275	280	285
Phe Gly Leu Leu	Glu Ala Pro Ala Pro Leu Glu	Glu Ala Pro Trp Pro	
	290	295	300
Pro Pro Glu Gly	Ala Phe Val Gly Phe Val	Leu Ser Arg Pro Glu Pro	
	305	310	315
Met Trp Ala Glu	Leu Lys Ala Leu Ala Ala Cys	Arg Gly Gly Arg Val	
	325	330	335
His Arg Ala Ala	Asp Pro Leu Ala Gly Leu Lys	Asp Leu Lys Glu Val	
	340	345	350
Arg Gly Leu Leu	Ala Lys Asp Leu Ala Val	Leu Ala Ser Arg Glu Gly	
	355	360	365
Leu Asp Leu Val	Pro Gly Asp Asp Pro Met	Leu Leu Ala Tyr Leu Leu	

370 375 380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415
His Arg Lys Lys Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590
Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605
Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620
His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640
Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655
Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile

675 680 685
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735
Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750
Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765
Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780
Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800
Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815
Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830
Ser Ala Lys Gly His His His His His His
835 840

<210> 381
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 381
gtgcgccaccg acctcctcct ggaggtggac etc

33

<210> 382
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 382
gaggtccacc tccaggagga ggtaggtgac cac

33

<210> 383

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 383

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctgggtgga cctcctgggg ttaccgcgc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaag aggaggggta cgaggcgcg 420
atcctcaccg ccgaccgga cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctcct cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttctt ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgce tgcaggggag gccgcgtgca ccgggcagca 1020
gacccttggt cgggggtaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggaagg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500

```

gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
acggggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctcg cccacctctc cggggacgaa aacctgatca gggctcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gagcaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaagt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctccctcctg aggcccccca agcgcggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

```

<210> 384
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 384

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1           5           10          15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20          25          30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
          35          40          45

```

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Leu Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 385
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 385
ggggccttcg tgggctacgt cctctccgc ccc

33

<210> 386
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 386

ggggcgggag aggacgtagc ccacgaaggc ccc

33

<210> 387

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 387

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgcc tccagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggctacg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccg gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380

```

caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcggggcc accccttcaa cctcaactcc cgggaccagc tggaaagggc gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccctc tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tctccaggt cgccaacgag ctctccttg aggcccccca agcgcggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

```

```

<210> 388
<211> 842
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 388

```

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1           5           10           15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20           25           30

```


Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 389
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 389
gaaaacctcc tcaagcacct ggaccaggta aagccagaaa ac

42

<210> 390
<211> 42
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 390

gttttctggc tttacctggg ccaggtgctt gaggaggttt tc

42

<210> 391

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 391

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcgg ccacgaggcc 240

tacgaggcct acaaggcggg gagggccccg acccccggag acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgagggtccc cggctacgag 360

gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420

atcctcaccg ccgaccgcga cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480

cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540

cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600

ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660

ctcaagcacc tggaccaggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720

gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780

gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840

gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900

gccccctggc ccccgccgga aggggccttc gtgggcttcg tctctctccg ccccgagccc 960

atgtgggchg agcttaaagc cctggccgcc tgcaggggch gccgcgtgca ccgggcagca 1020

gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080

gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgaccc catgctcctc 1140

gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200

gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260

cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgccaa gacggtgaac ttcggcgctc tctacggcat gtccgccat 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct ctccggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttg aggccccca agcgcggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 392
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 392

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val

1	5	10	15
Leu Leu Val	Asp Gly His His	Leu Ala Tyr Arg Thr	Phe Phe Ala Leu
	20	25	30
Lys Gly Leu	Thr Thr Ser Arg	Gly Glu Pro Val	Gln Ala Val Tyr Gly
	35	40	45
Phe Ala Lys	Ser Leu Leu Lys	Ala Leu Lys Glu	Asp Gly Tyr Lys Ala
	50	55	60
Val Phe Val	Val Phe Asp Ala	Lys Ala Pro Ser	Phe Arg His Glu Ala
65	70	75	80
Tyr Glu Ala	Tyr Lys Ala Gly	Arg Ala Pro Thr	Pro Glu Asp Phe Pro
	85	90	95
Arg Gln Leu	Ala Leu Ile Lys	Glu Leu Val Asp	Leu Leu Gly Phe Thr
	100	105	110
Arg Leu Glu	Val Pro Gly Tyr	Glu Ala Asp Asp	Val Leu Ala Thr Leu
	115	120	125
Ala Lys Lys	Ala Glu Lys Glu	Gly Tyr Glu Val	Arg Ile Leu Thr Ala
	130	135	140
Asp Arg Asp	Leu Tyr Gln Leu	Val Ser Asp Arg	Val Ala Val Leu His
145	150	155	160
Pro Glu Gly	His Leu Ile Thr	Pro Glu Trp Leu	Trp Glu Lys Tyr Gly
	165	170	175
Leu Arg Pro	Glu Gln Trp Val	Asp Phe Arg Ala	Leu Val Gly Asp Pro
	180	185	190
Ser Asp Asn	Leu Pro Gly Val	Lys Gly Ile Gly	Glu Lys Thr Ala Leu
	195	200	205
Lys Leu Leu	Lys Glu Trp Gly	Ser Leu Glu Asn	Leu Leu Lys His Leu
	210	215	220
Asp Gln Val	Lys Pro Glu Asn	Val Arg Glu Lys	Ile Lys Ala His Leu
225	230	235	240
Glu Asp Leu	Arg Leu Ser Leu	Glu Leu Ser Arg	Val Arg Thr Asp Leu
	245	250	255
Pro Leu Glu	Val Asp Leu Ala	Gln Gly Arg Glu	Pro Asp Arg Glu Gly
	260	265	270
Leu Arg Ala	Phe Leu Glu Arg	Leu Glu Phe Gly	Ser Leu Leu His Glu
	275	280	285
Phe Gly Leu	Leu Glu Ala Pro	Ala Pro Leu Glu	Glu Ala Pro Trp Pro
	290	295	300
Pro Pro Glu	Gly Ala Phe Val	Gly Phe Val Leu	Ser Arg Pro Glu Pro

305		310		315		320
Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val						
	325			330		335
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val						
	340			345		350
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly						
	355			360		365
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu						
	370			375		380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly						
	385			390		395
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu						
	405			410		415
His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp						
	420			425		430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met						
	435			440		445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser						
	450			455		460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg						
	465			470		475
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg						
	485			490		495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys						
	500			505		510
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu						
	515			520		525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys						
	530			535		540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg						
	545			550		555
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly						
	565			570		575
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr						
	580			585		590
Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp						
	595			600		605
Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala						

610	615	620
His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys 625 630 635 640		
Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu 645 650 655		
Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly 660 665 670		
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile 675 680 685		
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe 690 695 700		
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys 705 710 715 720		
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp 725 730 735		
Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala 740 745 750		
Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala 755 760 765		
Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu 770 775 780		
Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala 785 790 795 800		
Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro 805 810 815		
Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu 820 825 830		
Ser Ala Lys Gly His His His His His His 835 840		

<210> 393
 <211> 33
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 393
 gagctctccc ggggtgcacac cgacctcccc ctg

33

<210> 394

<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 394
cagggggagg tcggtgtgca cccgggagag etc

33

<210> 395
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 395
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccctcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccaggg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctctgtctcc accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttggggaga agtacggcct caggccggag 540
cagtgggtgg acctccgcgc cctcgtgggg gaccctcccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcaca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagtccggc ctcttgaggg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca cggggcagca 1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccc gggacgaccc catgctctc 1140

gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgccc ccaccgggccc ctctctctcg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttcgcg 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggccgccc tcacacccc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccctt tgggccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg ccacctctc cggggacgaa aacctgatca gggtcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaccct cttcggaaga aggcgctacg tgcccacact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttgg agggccccc aagcgggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgcggtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 396
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 396

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20          25          30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35          40          45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50          55          60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65          70          75          80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85          90          95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100         105         110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115         120         125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130         135         140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145         150         155         160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165         170         175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180         185         190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195         200         205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210         215         220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225         230         235         240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu
245         250         255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260         265         270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275         280         285

```

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 397
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 397

gagctctccc ggggtgcacac cgacctctc ctg 33

<210> 398
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 398
caggaggagg tcgggtgtgca cccgggagag ctc 33

<210> 399
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 399
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagag acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgccg tccaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaag aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctgctctccg accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcaca ccgacctct cctggagggtg 780
gacctcgccc aggggcgga gcccgaccgg gaggggctta gggccttctt ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctccctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca cggggcagca 1020

gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
 gccgtcttgg cctcgagggg ggggctagac ctctgccccg gggacgaccc catgctcctc 1140
 gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
 gagtggacgg aggacgccgc ccaccgggccc ctctctcgg agaggctcca tcggaacctc 1260
 cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
 ctctccccgg tcttgcccc tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
 caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgcg 1440
 ttggcgggccc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
 gagcttaggc tccccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
 gcggtgctgg aggccctacg ggaggccccc cccatcgtgg agaagatcct ccagcaccgg 1620
 gagctcacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
 acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
 tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
 cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
 gacatccaca cccagaccgc aagctggatg ttccggcgtc ccccgagggc cgtggacccc 1980
 ctgatgcgcc gggcggccaa gacggtgaac ttccggcgtc tctacggcat gtccgcccac 2040
 aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaagt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgaact caacgcccgg 2220
 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
 gccgcccacg tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcacgc tctccaggt cgccaacgag ctctcctcgg agggccccca agcgcggggc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
 caccac 2526

<210> 400
 <211> 842
 <212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 400

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20          25          30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
          35          40          45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
          50          55          60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65          70          75          80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
          85          90          95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
          100          105          110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
          115          120          125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
          130          135          140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145          150          155          160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
          165          170          175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
          180          185          190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
          195          200          205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
          210          215          220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225          230          235          240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu
          245          250          255

Leu Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
          260          265          270

```


Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750
 Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765
 Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780
 Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800
 Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815
 Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830
 Ser Ala Lys Gly His His His His His His
 835 840

<210> 401
 <211> 2508
 <212> DNA
 <213> Artificial

<220>

<223> Synthetic

<400> 401

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc	240
tacgaggcct acaaggcggg gaggggccccg acccccgagg acttcccccg gcagctcgcc	300
ctcatcaagg agctgggtgga cctcctggggg tttaaccgcc tcgagggtccc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgca cctctaccaa ctctgtctccg accgcgtcgc cgtcctccac	480
cccgagggcc acctcatcac cccggagtgg ctttggggaga agtacggcct caggccggag	540
cagtgggtgg acttccgcgc cctcgtggggg gacccctccg acaacctccc cgggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg	780
gacctcgccc aggggcgggg gcccgaccgg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctcttgaggg cccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc	960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca	1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccc gggacgacct catgctcctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg	1200
gagtggacgg aggacgccgc ccaccgggcc ctctctctcg agaggctcca tcggaacctc	1260
cttaagcgcc tggaggggga ggagaagctc gtttggtctt accacgaggt ggaaaagccc	1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggacctacctt	1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgcg	1440
ttggcggggc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac	1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc	1560
gcgggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg	1620

gagctcacca agctcaagaa cacctacgtg gacccccctcc caagcctcgt ccacccgagg 1680
 acggggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
 tccgacccca acctgcagaa catccccgtc cgcacccccct tggggccagag gatccgccgg 1800
 gccttcgtgg ccgaggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
 cgcgctcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
 gacatccaca cccagaccgc aagctggatg ttcggcgctcc ccccgagggc cgtggacccc 1980
 ctgatgcgcc gggcgggcaa gacggtgaac ttcggcgctcc tctacggcat gtccgcccac 2040
 aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacac ccaacggcgg 2220
 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 402
 <211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 402

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val
1				5					10					15	
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu
			20					25					30		
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly
		35					40					45			
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala
	50					55					60				
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala
65					70					75				80	

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Val Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 403
<211> 66
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> modified_base
<222> (19)..(51)
<223> The bases in these positions are a synthesis of 91% base shown and 3% all other bases

<400> 403
ctccatcgga acctctttaa gcgcctcgag ggggaggaga agctcctttg gctctaccac 60
gaggtg 66

<210> 404
<211> 18
<212> DNA
<213> Artificial

<220>

<223> Synthesis

<400> 404

aaggagggttc cgatggag

18

<210> 405

<211> 2508

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 405

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccc acccccagagg acttcccccg gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgagggtccc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc	420
atcctcaccg ccgaccgga cctctaccaa ctcgctctcc accgcgtcgc cgtcctccac	480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag	540
cagtgggtgg acttcgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg	780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc	960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca	1020
gacctcttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttgg cctcgaggga ggggctagac ctcggtgccc gggacgacct catgctcctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg	1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc	1260

cttaagcgcc tcgagggggt ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccctt tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctttcca ggaggggaag 1920
gacatccaca cccagaccgc aagtcggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccat 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaagt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttgg aggcccccca agcgcgggcc 2400
gaggaggtgg cgjctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 406

<211> 836

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 406

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu

20					25					30					
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly
	35					40					45				
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala
	50					55					60				
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala
	65					70					75				80
Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro
				85					90					95	
Arg	Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr
			100					105					110		
Arg	Leu	Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu
		115					120					125			
Ala	Lys	Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala
	130					135					140				
Asp	Arg	Asp	Leu	Tyr	Gln	Leu	Val	Ser	Asp	Arg	Val	Ala	Val	Leu	His
	145					150					155				160
Pro	Glu	Gly	His	Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly
				165					170					175	
Leu	Arg	Pro	Glu	Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro
			180					185					190		
Ser	Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu
		195					200					205			
Lys	Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu
	210					215					220				
Asp	Arg	Val	Lys	Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu
	225					230					235				240
Glu	Asp	Leu	Arg	Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	Arg	Thr	Asp	Leu
				245					250					255	
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly
			260					265					270		
Leu	Arg	Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu
		275					280					285			
Phe	Gly	Leu	Leu	Glu	Ala	Pro	Ala	Pro	Leu	Glu	Glu	Ala	Pro	Trp	Pro
	290					295					300				
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Pro	Glu	Pro
	305					310					315				320
Met	Trp	Ala	Glu	Leu	Lys	Ala	Leu	Ala	Ala	Cys	Arg	Gly	Gly	Arg	Val

325										330					335				
His	Arg	Ala	Ala	Asp	Pro	Leu	Ala	Gly	Leu	Lys	Asp	Leu	Lys	Glu	Val				
			340					345					350						
Arg	Gly	Leu	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Ser	Arg	Glu	Gly				
		355					360					365							
Leu	Asp	Leu	Val	Pro	Gly	Asp	Asp	Pro	Met	Leu	Leu	Ala	Tyr	Leu	Leu				
		370				375						380							
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly				
		385			390				395					400					
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu				
				405				410						415					
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Val	Glu	Lys	Leu	Leu	Trp				
			420					425					430						
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met				
		435					440					445							
Glu	Ala	Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser				
		450				455					460								
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg				
		465			470				475					480					
Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg				
				485				490					495						
Val	Leu	Phe	Asp	Glu	Leu	Arg	Leu	Pro	Ala	Leu	Lys	Lys	Thr	Lys	Lys				
			500					505					510						
Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu				
		515					520					525							
Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys				
		530				535					540								
Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg				
		545			550				555					560					
Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly				
				565				570						575					
Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr				
			580					585					590						
Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp				
		595					600					605							
Ala	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala				
		610				615						620							
His	Leu	Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys				

625		630		635		640
Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu						
	645			650		655
Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly						
	660			665		670
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile						
	675		680		685	
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe						
	690		695		700	
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys						
	705		710		715	720
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp						
	725		730			735
Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala						
	740		745			750
Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala						
	755		760		765	
Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu						
	770		775		780	
Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala						
	785		790		795	800
Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro						
	805		810			815
Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu						
	820		825			830
Ser Ala Lys Gly						
	835					

<210> 407
 <211> 2508
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 407	
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgg ccacgaggcc	240

tacgaggcct acaaggcggg gagggccccc acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctcgtctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaage cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcgtgcccc gggacgaccc catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgaa acgaggggaa ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggt tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcgaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920

gacatccaca cccagaccgc aagctggatg ttcggcgctcc ccccgaggc cgtggacccc 1980
 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctcc tctacggcat gtccgcccac 2040
 aggtctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcgaaga aggcgctacg tgcccgacct caacgcccgg 2220
 gtgaagagcg tcaggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt cgccaacgag ctctctctgg agggccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 408
 <211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 408

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	1	5	10	15
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu	20	25	30	
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	35	40	45	
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala	50	55	60	
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	65	70	75	80
Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	85	90	95	
Arg	Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	100	105	110	
Arg	Leu	Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	115	120	125	
Ala	Lys	Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	130	135	140	

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Asn Glu Gly Lys Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640
 Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
 645 650 655
 Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
 660 665 670
 Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
 675 680 685
 Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
 690 695 700
 Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
 705 710 715 720
 Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
 725 730 735
 Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
 740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 409
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 409
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggectaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcg ccacgaggcc 240
tacgaggcct acaaggcggg gaggggcccc acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgagggtccc cggctacgag 360
gcggaacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctcgctctcc accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900

gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggagg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcggtcccg gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgagg ctacgggggg 1200
gagtggacgg aggacggcgc ccaccgggac ctctctcggg agaggctcca tcggaacctc 1260
cttaagcgct tcgaggggga ggagaagctc ctttgcctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcggggc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctcgg ggagatgggg 2340
gcccgcatgc tcctccaggt cgccaacgag ctctccttgg agggccccc aagcgggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgcggtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggttttccg ccaagggt 2508

<210> 410

<211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 410

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1           5           10           15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20           25           30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35           40           45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50           55           60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65           70           75           80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85           90           95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100          105          110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115          120          125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130          135          140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145          150          155          160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165          170          175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180          185          190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195          200          205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210          215          220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225          230          235          240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245          250          255
  
```

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Phe Glu Gly Glu Glu Lys Leu Leu Cys
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 411
<211> 2508
<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 411

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcg ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg ttaccgcc tcgagggtccc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgca cctctaccaa ctcgctctcg accgcgtcgc cgtcctccac	480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag	540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg	720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg	780
gacctcgccc aggggcggga gcccgaaccg gaggggctta gggccttcct ggagaggctg	840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag	900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tctctcccg ccccgagccc	960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca	1020
gacccttg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttg cctcgaggga ggggctagac ctcggtgccg gggacgacct catgctcctc	1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg	1200
gagtggacgg aggacgccc ccaccgggcc ctctctcgg agaggctcca tcggaacctc	1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc	1320
ctctccccgg tctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt	1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc	1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac	1500
gagcttaggc ttcccttttt gaagaagacg aagaagacag gcaagcgctc caccagcgcc	1560

gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
 gagctcacca agctcaagaa cacctacgtg gacccccctcc caagcctcgt ccacccgagg 1680
 acggggccgcc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
 tccgacccca acctgcagaa catccccgtc cgcacccccct tgggccagag gatccgccgg 1800
 gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
 cgcgctctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
 gacatccaca ccagaccgc aagctggatg ttcggcgctcc ccccgagggc cgtggacccc 1980
 ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctcc tctacggcat gtccgcccac 2040
 aggcctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcgggaaga aggcgctacg tgcccgcacct caacgcccgg 2220
 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tcctccaggt cgccaacgag ctctctctgg agggccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 412
 <211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 412

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val
1				5					10					15	
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu
			20					25					30		
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly
		35					40					45			
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala
	50					55					60				
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala

65		70		75		80
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro	85	90	95			
Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr	100	105	110			
Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu	115	120	125			
Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala	130	135	140			
Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His	145	150	155	160		
Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly	165	170	175			
Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro	180	185	190			
Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu	195	200	205			
Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu	210	215	220			
Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu	225	230	235	240		
Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu	245	250	255			
Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly	260	265	270			
Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu	275	280	285			
Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro	290	295	300			
Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro	305	310	315	320		
Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val	325	330	335			
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val	340	345	350			
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly	355	360	365			
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu						

370					375					380					
Asp	Pro	Ser	Asn	Thr	Thr	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly
385					390					395					400
Glu	Trp	Thr	Glu	Asp	Ala	Ala	His	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu
				405					410					415	
His	Arg	Asn	Leu	Leu	Lys	Arg	Leu	Glu	Gly	Glu	Glu	Lys	Leu	Leu	Trp
			420					425					430		
Leu	Tyr	His	Glu	Val	Glu	Lys	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met
			435				440					445			
Glu	Ala	Thr	Gly	Val	Arg	Arg	Asp	Val	Ala	Tyr	Leu	Gln	Ala	Leu	Ser
			450				455					460			
Leu	Glu	Leu	Ala	Glu	Glu	Ile	Arg	Arg	Leu	Glu	Glu	Glu	Val	Phe	Arg
465						470					475				480
Leu	Ala	Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg
				485					490					495	
Val	Leu	Phe	Asp	Glu	Leu	Arg	Leu	Pro	Phe	Leu	Lys	Lys	Thr	Lys	Lys
			500					505					510		
Thr	Gly	Lys	Arg	Ser	Thr	Ser	Ala	Ala	Val	Leu	Glu	Ala	Leu	Arg	Glu
			515				520					525			
Ala	His	Pro	Ile	Val	Glu	Lys	Ile	Leu	Gln	His	Arg	Glu	Leu	Thr	Lys
			530			535					540				
Leu	Lys	Asn	Thr	Tyr	Val	Asp	Pro	Leu	Pro	Ser	Leu	Val	His	Pro	Arg
545						550					555				560
Thr	Gly	Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly
				565					570					575	
Arg	Leu	Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr
				580				585					590		
Pro	Leu	Gly	Gln	Arg	Ile	Arg	Arg	Ala	Phe	Val	Ala	Glu	Ala	Gly	Trp
			595				600					605			
Ala	Leu	Val	Ala	Leu	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala
			610			615					620				
His	Leu	Ser	Gly	Asp	Glu	Asn	Leu	Ile	Arg	Val	Phe	Gln	Glu	Gly	Lys
625						630					635				640
Asp	Ile	His	Thr	Gln	Thr	Ala	Ser	Trp	Met	Phe	Gly	Val	Pro	Pro	Glu
				645					650					655	
Ala	Val	Asp	Pro	Leu	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly
			660					665					670		
Val	Leu	Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Ala	Ile

675					680					685					
Pro	Tyr	Glu	Glu	Ala	Val	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe
690						695					700				
Pro	Lys	Val	Arg	Ala	Trp	Ile	Glu	Lys	Thr	Leu	Glu	Glu	Gly	Arg	Lys
705						710					715				720
Arg	Gly	Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp
				725					730					735	
Leu	Asn	Ala	Arg	Val	Lys	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala
			740					745					750		
Phe	Asn	Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Leu	Ala
		755					760					765			
Met	Val	Lys	Leu	Phe	Pro	Arg	Leu	Arg	Glu	Met	Gly	Ala	Arg	Met	Leu
	770					775					780				
Leu	Gln	Val	Ala	Asn	Glu	Leu	Leu	Leu	Glu	Ala	Pro	Gln	Ala	Arg	Ala
785						790					795				800
Glu	Glu	Val	Ala	Ala	Leu	Ala	Lys	Glu	Ala	Met	Glu	Lys	Ala	Tyr	Pro
			805						810					815	
Leu	Ala	Val	Pro	Leu	Glu	Val	Glu	Val	Gly	Met	Gly	Glu	Asp	Trp	Leu
			820					825					830		
Ser	Ala	Lys	Gly												
			835												

<210> 413
 <211> 42
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<220>
 <221> n
 <222> (19)..(21)
 <223> n is any base a,t,c, or g.

<400> 413
 caggagctta ggcttcccn nttgaagaag acgaagaaga ca

42

<210> 414
 <211> 18
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 414
cctaagctcg tcaaagag 18

<210> 415
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 415
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccaggg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgca cctctacca aatcgtctcc accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttcgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagagggtg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tctctctccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgtcccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320

ctctcccggg tcttgccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcggggc accccttcaa cctcaactcc cgggaccagc tggaaagggg gctctttgac 1500
gagcttaggc ttcccgtttt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccttacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttctgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctc cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgaact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tctccaggt cgccaacgag ctctcctgg agggcccca agcgcgggccc 2400
gaggaggtgg cggttttggc caaggaggcc atggagaagg cctatccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 416
<211> 836
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 416

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Val Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525
 Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
 530 535 540
 Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
 545 550 555 560
 Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
 565 570 575
 Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
 580 585 590
 Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
 595 600 605
 Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
 610 615 620
 His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
 625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 417
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 417
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgc ccacgaggcc 240

tacgaggcct acaaggcggg gagggcccg acccccgagg acttccccg gcagctcgcc 300
ctcatcaagg agctggtgga ctcctggggg ttaccgccg tcgaggtccc cggctacgag 360
gcggaacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctacca ctcgtctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac ccgggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc ctcgtggggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggagg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacccttggt cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttggt cctcgaggga ggggctagac ctcgtgcccg gggacgacct catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggaacgggc ccaccgggac ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggacctcctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccagttt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg _acccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacaccgg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctc tgggcccagag gatccgccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980

ctgatgcgcc gggcggccaa gacggtgaac ttccggcgtcc tctacggcat gtccgccccat 2040
 aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
 gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tctccaggt cgccaacgag ctctctctgg aggcccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 418
 <211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 418

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	1	5	10	15
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu	20	25	30	
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	35	40	45	
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala	50	55	60	
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	65	70	75	80
Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	85	90	95	
Arg	Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	100	105	110	
Arg	Leu	Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	115	120	125	
Ala	Lys	Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	130	135	140	

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ser Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
 755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
 770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
 785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
 805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
 820 825 830

Ser Ala Lys Gly
 835

<210> 419
 <211> 2508
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 419
 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
 ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
 gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
 ggggtacaagg cegtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240
 tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
 ctcatcaagg agctggtgga cctcctggggg tttaccgcgc tcgaggtccc cggctacgag 360
 gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
 atcctcaccg ccgaccgcga cctctaccaa ctcgctctccg accgcgtcgc cgtcctccac 480
 cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
 cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
 ggcacgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
 ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
 gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
 gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
 gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900

gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggocg agcttaaagc cctggccgccc tgcaggggocg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcggtcccg gggacgaccc catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgccc ccaccgggccc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt cctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgccct gaagaagacg aagaagacag gcaagcgctc caccggtgcc 1560
gcggtgctgg aggccctacg ggaggccrac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccctc tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctcctcgg agggccccc aagcgggggc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 420

<211> 836

<212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 420

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val	1	5	10	15
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu	20	25	30	
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly	35	40	45	
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala	50	55	60	
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala	65	70	75	80
Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro	85	90	95	
Arg	Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr	100	105	110	
Arg	Leu	Glu	Val	Pro	Gly	Tyr	Glu	Ala	Asp	Asp	Val	Leu	Ala	Thr	Leu	115	120	125	
Ala	Lys	Lys	Ala	Glu	Lys	Glu	Gly	Tyr	Glu	Val	Arg	Ile	Leu	Thr	Ala	130	135	140	
Asp	Arg	Asp	Leu	Tyr	Gln	Leu	Val	Ser	Asp	Arg	Val	Ala	Val	Leu	His	145	150	155	160
Pro	Glu	Gly	His	Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly	165	170	175	
Leu	Arg	Pro	Glu	Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro	180	185	190	
Ser	Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu	195	200	205	
Lys	Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu	210	215	220	
Asp	Arg	Val	Lys	Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu	225	230	235	240
Glu	Asp	Leu	Arg	Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	Arg	Thr	Asp	Leu	245	250	255	
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly				

	260		265		270
Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu	275		280		285
Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro	290		295		300
Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro	305		310		315
Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val	325		330		335
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val	340		345		350
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly	355		360		365
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu	370		375		380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly	385		390		395
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu	405		410		415
His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp	420		425		430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met	435		440		445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser	450		455		460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg	465		470		475
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg	485		490		495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys	500		505		510
Thr Gly Lys Arg Ser Thr Gly Ala Ala Val Leu Glu Ala Leu Arg Glu	515		520		525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys	530		535		540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg	545		550		555
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly					

```
<210> 421
<211> 42
<212> DNA
<213> Artificial
```


<220>

<223> Synthetic

<220>

<221> n

<222> (16)..(18)

<223> n is any base a,t,c, or g.

<400> 421

ggcaagcgct ccaccnnngc cgcggtgctg gaggccctac gg

42

<210> 422

<211> 15

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 422

ggtggagcgc ttgcc

15

<210> 423

<211> 2508

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 423

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcctg ccacgaggcc 240

tacgaggcct acaaggcggg gagggccccc acccccagagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgagggtccc cggctacgag 360

gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcg 420

atcctcaccg ccgaccgcga cctctaccaa ctcgctctccg accgcgtcgc cgtcctccac 480

cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540

cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600

ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660

ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaaccg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggagg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacctcttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgagg ctacgggggg 1200
gagtggacgg aggacgccc ccaccgggccc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggagccc accggggtag ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagctta 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacctctcc caagcctcgt ccaccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgcccg 1800
gccttcgtgg ccgagcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgctcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgaggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgctc tctacggcat gtccgccc 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tcccaagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaccct ctccggaaga aggcgctacg tgcccagact caacgcccgg 2220
gtgaagagcg tcaggaggc cgcgagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcagtc tcctccaggt cgccaacgag ctctccttg agggcccca agcgcgggcc 2400

gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggttttccg ccaagggt 2508

<210> 424
<211> 836
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 424

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45
Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60
Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95
Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110
Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125
Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140
Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160
Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175
Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190
Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205
Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415
 His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
 420 425 430
 Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
 435 440 445
 Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
 450 455 460
 Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
 465 470 475 480
 Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
 485 490 495
 Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
 500 505 510
 Thr Gly Lys Arg Ser Thr Ser Leu Ala Val Leu Glu Ala Leu Arg Glu
 515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 425
<211> 42
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<220>
<221> n
<222> (19)..(21)
<223> n is any base a,t,c, or g.

<400> 425
ggcaagcgct ccaccagcnn ngcggtgctg gaggcctac gg

42

<210> 426
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 426
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaggccc cctccttcgg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctggtctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780

gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggagg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacctccttg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtccttg cctcgaggga ggggctagac ctctgcccc gggacgacct catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgagg ctacgggggg 1200
gagtggagcg aggacgccc ccaccgggct ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtag ggcgggagct ggcctacctt 1380
ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagccgt 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtag agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccaccgagg 1680
acgggcccgc tccacaccgg cttaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctt tgggcccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttccggtcct ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttccggtcct tctacggcat gtccgcccct 2040
aggctctccc aggagcttgc catccccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tcccaagggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaccct ctccggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccacc tcatgaagct cgcctggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcctgc tcctccaggt cgcacaagag ctctcctcgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgcggtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

```
<210> 427
<211> 836
<212> PRT
<213> Artificial
```

<220>
<223> Synthetic

<400> 427

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60

Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu

245	250	255
Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly		
260	265	270
Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu		
275	280	285
Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro		
290	295	300
Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro		
305	310	315
Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val		
325	330	335
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val		
340	345	350
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly		
355	360	365
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu		
370	375	380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly		
385	390	395
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu		
405	410	415
His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp		
420	425	430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met		
435	440	445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser		
450	455	460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg		
465	470	475
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg		
485	490	495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys		
500	505	510
Thr Gly Lys Arg Ser Thr Ser Arg Ala Val Leu Glu Ala Leu Arg Glu		
515	520	525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys		
530	535	540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg		
545	550	555
		560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 65 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 428
<211> 2499

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 428

atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc 60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccgggggggag 120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg 180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg 240
gggtacaagg cgggccgggc cccacgcgcg gaggactttc cccggcaact cgccctcatc 300
aaggagctyy tggacctcct ggggctggcg cgcctcgagg tcccgggcta cgaggcggac 360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcatcctc 420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag 480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg 540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc 600
ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggcctttc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
cccccgccgg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtgggcc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcccc cgagccttat 1020
aaagccctca gggacctgaa ggaggcgcgg gggcttctcg ccaaagacct gagcgttctg 1080
gccctgaggg aaggccttgg cctcccgccc ggcgacgacc ccatgctcct cgcctacctc 1140
ctggaccctt cgaacaccac ccccgagggg gtggcccggc gctacggcgg ggagtggacg 1200
gaggaggcgg gggagcgggc cgccctttcc gagaggctct tcgccaacct gcttaagagg 1260
cttgaggggg aggagaggct cctttggctt taccgggagg tggagaggcc cctttccgct 1320
gtcctggccc atatggaggc cacgggggtg cgccgggacg tggcctatct cagggccttg 1380
tccctggagg tggccgagga gatcgccgc ctcgaggccg aggtcttccg cctggccggc 1440
cacccttca acctcaactc ccgggaccag ctggaaaggg tcctctttga cgagctaggg 1500

```

cttccccgcca tcaagaagac gcaaaagacc ggcaagcgct ccaccagcgc cgccgtcctg 1560
gaggccctcc gcgaggccca ccccatcgtg gagaagatcc tgcagtaccg ggagctcacc 1620
aagctgaaga gcacctacat tgaccccttg ccggacctca tccaccccag gacgggcccgc 1680
ctccacaccc gcttcaacca gacggccacg gccacgggca ggctaagtag ctccgatccc 1740
aacctccaga acatccccgt ccgcaccccg cttgggcaga ggatccgccg ggccttcac 1800
gccgaggagg ggtggctatt ggtggccctg gactatagcc agatagagct cagggtgctg 1860
gcccacctct ccggcgacga gaacctgatc cgggtcttcc aggaggggag ggacatccac 1920
acggagaccg ccagctggat gttcggcgtc ccccgggagg ccgtggaccc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggggtc ctctacggca tgcgggcca ccgcctctcc 2040
caggagctag ccatccctta cgaggaggcc caggccttca ttgagcgcta ctttcagagc 2100
ttccccaagg tgcgggcctg gattgagaag accctggagg agggcaggag gcgggggtac 2160
gtggagaccc tcttcggccg ccgcgcctac gtgccagacc tagaggcccg ggtgaagagc 2220
gtgcgggagg cggccgagcg catggccttc aacatgcccg tccagggcac cgccgccgac 2280
ctcatgaagc tggctatggt gaagctcttc cccaggctgg aggaaatggg ggccaggatg 2340
ctccttcagg tcgccaacga gctggtcctc gaggccccaa aagagagggc ggaggccgtg 2400
gcccggctgg ccaaggaggt catggagggg gtgtatcccc tggccgtgcc cctggaggtg 2460
gaggtgggga taggggagga ctggctctcc gccaaggag 2499

```

```

<210> 429
<211> 833
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 429

```

```

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1           5           10          15
Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
          20          25          30
Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
          35          40          45
Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
          50          55          60

```

Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65 70 75 80

Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
85 90 95

Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu
100 105 110

Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
115 120 125

Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
130 135 140

Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
145 150 155 160

Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
165 170 175

Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
180 185 190

Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
210 215 220

Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
225 230 235 240

Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
245 250 255

Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
260 265 270

Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
275 280 285

Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
290 295 300

Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
305 310 315 320

Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
325 330 335

Pro Glu Pro Tyr Lys Ala Leu Arg Asp Leu Lys Glu Ala Arg Gly Leu
340 345 350

Leu Ala Lys Asp Leu Ser Val Leu Ala Leu Arg Glu Gly Leu Gly Leu
355 360 365

Pro Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser
370 375 380

Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr
385 390 395 400

Glu Glu Ala Gly Glu Arg Ala Ala Leu Ser Glu Arg Leu Phe Ala Asn
405 410 415

Leu Leu Lys Arg Leu Glu Gly Glu Glu Arg Leu Leu Trp Leu Tyr Arg
420 425 430

Glu Val Glu Arg Pro Leu Ser Ala Val Leu Ala His Met Glu Ala Thr
435 440 445

Gly Val Arg Arg Asp Val Ala Tyr Leu Arg Ala Leu Ser Leu Glu Val
450 455 460

Ala Glu Glu Ile Ala Arg Leu Glu Ala Glu Val Phe Arg Leu Ala Gly
465 470 475 480

His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe
485 490 495

Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Gln Lys Thr Gly Lys
500 505 510

Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro
515 520 525

Ile Val Glu Lys Ile Leu Gln Tyr Arg Glu Leu Thr Lys Leu Lys Ser
530 535 540

Thr Tyr Ile Asp Pro Leu Pro Asp Leu Ile His Pro Arg Thr Gly Arg
545 550 555 560

Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser
565 570 575

Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly
580 585 590

Gln Arg Ile Arg Arg Ala Phe Ile Ala Glu Glu Gly Trp Leu Leu Val
595 600 605

Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser
610 615 620

Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Arg Asp Ile His
625 630 635 640

Thr Glu Thr Ala Ser Trp Met Phe Gly Val Pro Arg Glu Ala Val Asp
645 650 655

Pro Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr
660 665 670

Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu
675 680 685

Glu Ala Gln Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val
690 695 700

Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Arg Arg Gly Tyr
705 710 715 720

Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Glu Ala
725 730 735

Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met
740 745 750

Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys
755 760 765

Leu Phe Pro Arg Leu Glu Glu Met Gly Ala Arg Met Leu Leu Gln Val
770 775 780

Ala Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Arg Ala Glu Ala Val
785 790 795 800

Ala Arg Leu Ala Lys Glu Val Met Glu Gly Val Tyr Pro Leu Ala Val
805 810 815

Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys
820 825 830

Glu

<210> 430
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 430
acgggggtgc gccgggacgt ggcctat

27

<210> 431
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 431
atgaattccg aggcgatgct tccgctcttt gaaccctaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgca cctctacca ctcgtctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gacccttgga cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttg cctcgaggga ggggctagac ctcgtgccc gggacgacct catgctctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccttgagct tgcggaggag atccgcgcgc tcgaggagga ggtcttcgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccaagtt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccaccgagg 1680
acgggccgcc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctc tgggcccagag gatccgcgg 1800

gccttcgtgg ccgagggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacgggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcagggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgcccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctctctgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 432
<211> 836
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 432

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1 5 10 15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20 25 30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
35 40 45
Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
50 55 60
Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
65 70 75 80
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
85 90 95
Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110
Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu

115	120	125
Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala		
130	135	140
Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His		
145	150	155
Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly		
165	170	175
Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro		
180	185	190
Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu		
195	200	205
Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu		
210	215	220
Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu		
225	230	235
Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu		
245	250	255
Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly		
260	265	270
Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu		
275	280	285
Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro		
290	295	300
Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro		
305	310	315
Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val		
325	330	335
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val		
340	345	350
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly		
355	360	365
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu		
370	375	380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly		
385	390	395
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu		
405	410	415
His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp		

420 425 430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495
Val Leu Phe Asp Glu Leu Arg Leu Pro Lys Leu Lys Lys Thr Lys Lys
500 505 510
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590
Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605
Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620
His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640
Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655
Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp

	725		730		735
Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala					
	740		745		750
Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala					
	755		760		765
Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu					
	770		775		780
Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala					
	785		790		795
Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro					
	805		810		815
Leu Ala Val Pro Leu Glu Val Glu Val G_ Met Gly Glu Asp Trp Leu					
	820		825		830
Ser Ala Lys Gly					
	835				

<210> 433
 <211> 36
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 433
 cttaggcttc ccaagttgaa gaagacgaag aagaca

36

<210> 434
 <211> 36
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 434
 tgtcttcttc gtcttcttca acttggaag cctaag

36

<210> 435
 <211> 2508
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic

<400> 435
 atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac

60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgccg tcgagggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcg 420
atcctcaccg ccgaccgga cctctacca ctcgtctccg accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttcgcgc cctcgtgggg gaccccccg acaacctccc cggggtaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gacctcttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcgtgcccg gggacgacct catgctctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggcctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccaccgagg 1680
acgggccgcc tcacacccc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740

tccgacccca acctgcagaa catccccgtc cgcaccccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatcgcca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgcact caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctcctcgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 436
<211> 836
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 436

Met	Asn	Ser	Glu	Ala	Met	Leu	Pro	Leu	Phe	Glu	Pro	Lys	Gly	Arg	Val
1				5					10					15	
Leu	Leu	Val	Asp	Gly	His	His	Leu	Ala	Tyr	Arg	Thr	Phe	Phe	Ala	Leu
			20					25					30		
Lys	Gly	Leu	Thr	Thr	Ser	Arg	Gly	Glu	Pro	Val	Gln	Ala	Val	Tyr	Gly
		35					40					45			
Phe	Ala	Lys	Ser	Leu	Leu	Lys	Ala	Leu	Lys	Glu	Asp	Gly	Tyr	Lys	Ala
	50					55					60				
Val	Phe	Val	Val	Phe	Asp	Ala	Lys	Ala	Pro	Ser	Phe	Arg	His	Glu	Ala
65					70					75				80	
Tyr	Glu	Ala	Tyr	Lys	Ala	Gly	Arg	Ala	Pro	Thr	Pro	Glu	Asp	Phe	Pro
			85					90						95	
Arg	Gln	Leu	Ala	Leu	Ile	Lys	Glu	Leu	Val	Asp	Leu	Leu	Gly	Phe	Thr
		100						105					110		

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335
 His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
 340 345 350
 Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
 355 360 365
 Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
 370 375 380
 Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
 385 390 395 400
 Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
 405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile Ala Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 437
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 437
gaggggaagg acatcgccac ccagaccgca agc

33

<210> 438
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 438
gcttgcggtc tgggtggcga tgctcttccc ctc

33

<210> 439
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 439
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttcgc ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccaggg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctcgctctcg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcgga gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggcg gccgcgtgca ccgggcagca 1020
gacccttg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttg cctcgaggga ggggctagac ctcggtcccg gggacgacct catgctctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgcg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctccccgg tcctggccca tatggaggcc accggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttcgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagccg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680

acggggccgcc tccacacccg cttcaaccag acggccacgg ccacgggggag gcttagtagc 1740
 tccgacccca acctgcagaa catccccgtc cgcaccccct tggggccagag gatccgccgg 1800
 gccttcgtgg ccgagggcggg ttgggcgttg gtggcccttg actatagcca gatagagctc 1860
 cgcgtcctcg cccacctctc cggggacgaa aacctgatca ggggtcttcca ggaggggaag 1920
 gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccggaggc cgtggacccc 1980
 ctgatgcgcc gggcggccaa gacgggtgaac ttcggcgctc tctacggcat gtccgccccat 2040
 aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
 ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
 cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccgacct caacgcccg 2220
 gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
 gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
 gcccgcatgc tctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
 gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
 ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggt 2508

<210> 440
 <211> 836
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 440

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
100 105 110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
130 135 140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145 150 155 160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
165 170 175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
180 185 190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
195 200 205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
210 215 220

Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
225 230 235 240

Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
245 250 255

Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
260 265 270

Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
275 280 285

Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
290 295 300

Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
305 310 315 320

Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Pro Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly
835

<210> 441
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 441
ccgccttga agaagccgaa gaagacaggc aag

33

<210> 442
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 442
cttgctgtc ttcttcggct tcttcaaggc ggg

33

<210> 443
<211> 2499
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 443

atgaattcgg	ggatgctgcc	cctctttgag	cccaagggcc	gggtcctcct	ggtggacggc	60
caccacctgg	cctaccgcac	cttccacgcc	ctgaagggcc	tcaccaccag	ccggggggag	120
ccggtgcagg	cggtctacgg	cttcgccaag	agccctctca	aggccctcaa	ggaggacggg	180
gacgcggtga	tcgtggtctt	tgacgccaag	gccccctcct	tccgccacga	ggcctacggg	240
gggtacaagg	cgggccgggc	ccccacgccg	gaggactttc	cccggcaact	cgccctcatc	300
aaggagctgg	tggacctcct	ggggttcacg	cgcctcgagg	tcccgggcta	cgaggcggac	360
gacgtcctgg	ccagcctggc	caagaaggcg	gaaaaggagg	gctacgaggt	ccgcctcctc	420
accgccgaca	aagaccttta	ccagctcctt	tccgacgcga	tccacgtcct	ccaccccgag	480
gggtacctca	tcaccccggc	ctggcttttg	gaaaagtacg	gcctgaggcc	cgaccagtgg	540
gccgactacc	gggccttgac	cggggacgag	tccgacaacc	ttcccggggg	caagggcatc	600
ggggagaaga	cggcgaggaa	gcttctggag	gagtggggga	gcctggaagc	cctcctcaag	660
aacctggacc	ggctgaagcc	cgccatccgg	gagaagatcc	tggcccacat	ggacgatctg	720
aagctctcct	gggacctggc	caaggtgcgc	accgacctgc	ccctggaggt	ggacttcgcc	780
aaaaggcggg	agcccgaccg	ggagaggcct	agggcctttc	tggagaggct	tgagtttggc	840
agcctcctcc	acgagttcgg	ccttctggaa	agccccaagg	ccctggagga	ggccccctgg	900
cccccgccgg	aaggggcctt	cgtgggcttt	gtgctttccc	gcaaggagcc	catgtgggcc	960
gatcttctgg	ccctggccgc	cgccaggggc	ggccgcgttt	accgggcgga	ggatcccttg	1020
gaggccttgc	gggggcttgg	ggaggtgagg	gggcttttgg	ccaaggacct	ggcggtgctg	1080
gccctgaggg	aagggaattgc	cctggcaccg	ggcgacgacc	ccatgctcct	cgcctacctc	1140
ctggatcctt	ccaacaccgc	ccccgaaggg	gtagcccggc	gctacggggg	ggagtggacc	1200
gaggaggcgg	gggaaagggc	gctgctttcc	gaaaggcttt	acgccgccct	cctgaagcgg	1260
cttaaggggg	aggagaggct	tctttggctt	tacgaggagg	tggaaaagcc	cctttcgcgg	1320
gtcctggccc	acatggaggc	cacgggggta	cggttggatg	tggcctactt	aaaggccctt	1380
tccctggagg	tggaggcgga	gataaggcgc	ttcgaggagg	aggtccaccg	cctggccggg	1440
catcctttca	acctgaactc	ccgggaccag	ctggaaaggg	tcctctttga	cgagcttggg	1500
cttcccccca	tcaagaagac	gaggaagacg	ggcaagcgct	ccaccagcgc	cgccgttttg	1560
gaggccttgc	gggaggctca	tcccatcgta	gaccgcctcc	ttcagtaccg	ggagctttcc	1620

```

aagctcaagg gaacctacat cgatcccttg cctgcccttg tccaccccaa gacgaaccgc 1680
ctccacaccc gtttcaacca gacggccacc gccacgggga ggcttagcag ctcggaacct 1740
aatctgcaaa atatccccgt gcgcacccct ttggggccagc ggatccgccg ggccttcgtg 1800
gccgaggagg ggtggaggct ggtggttttg gactacagcc agattgagct cagggtcctg 1860
gcgcaccttt ccggggacga gaacctaatc cgggtcttcc aggagggcca ggacatccac 1920
accagacgg ccagctggat gttcggcgtg cccccagagg ccgtggattc cctgatgcgc 1980
cgggcggcca agaccatcaa cttcggcgtc ctctacggca tgtccgcca ccggctttcg 2040
ggagagctgg ccattcccta cgaggaggcg gtggccttca tcgagcggta tttccagagc 2100
taccccaagn tgcgggcctg gattgagaaa accctggcgg aaggacggga acggggctat 2160
gtggaaaccc tctttggccg ccggcgctac gtgcccgact tggcttcccg ggtgaagagc 2220
atccgggagg cagcggagcg catggccttc aacatgccgg tccaggggac cgcgcggat 2280
ttgatgaaac tggccatggt gaagctcttt cccaggcttc aggagctggg ggccaggatg 2340
cttttgcagg tgcacaacga actggtcctc gaggtccca aggagcaagc ggaggaagtc 2400
gcccaggagg ccaagcggac catggaggag gtgtggcccc tgaagggtgcc cttggagggtg 2460
gaagtgggca tcggggagga ctggctttcc gccaaaggcc 2499

```

```

<210> 444
<211> 833
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 444

```

```

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
1          5          10          15
Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
20        25        30
Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
35        40        45
Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
50        55        60
Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
65        70        75        80
Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln

```


779

385		390		395		400
Glu Glu Ala Gly	Glu Arg Ala Leu Leu Ser	Glu Arg Leu Tyr Ala Ala				
	405		410		415	
Leu Leu Lys Arg	Leu Lys Gly Glu Glu Arg	Leu Leu Trp Leu Tyr Glu				
	420		425		430	
Glu Val Glu Lys	Pro Leu Ser Arg Val Leu Ala His Met	Glu Ala Thr				
	435		440		445	
Gly Val Arg Leu Asp	Val Ala Tyr Leu Lys Ala Leu Ser	Leu Glu Val				
	450		455		460	
Glu Ala Glu Ile Arg	Arg Phe Glu Glu Glu Val His Arg	Leu Ala Gly				
	465		470		475	
His Pro Phe Asn	Leu Asn Ser Arg Asp Gln Leu Glu Arg	Val Ile Phe				
	485		490		495	
Asp Glu Leu Gly	Leu Pro Ala Ile Lys Lys Thr Arg Lys Thr	Gly Lys				
	500		505		510	
Arg Ser Thr Ser	Ala Ala Val Leu Glu Ala Leu Arg	Glu Ala His Pro				
	515		520		525	
Ile Val Asp Arg	Ile Leu Gln Tyr Arg Glu Leu Ser Lys	Leu Lys Gly				
	530		535		540	
Thr Tyr Ile Asp	Pro Leu Pro Ala Leu Val His Pro Lys Thr	Asn Arg				
	545		550		555	
Leu His Thr Arg	Phe Asn Gln Thr Ala Thr Ala Thr Gly	Arg Leu Ser				
	565		570		575	
Ser Ser Asp Pro	Asn Leu Gln Asn Ile Pro Val Arg Thr	Pro Leu Gly				
	580		585		590	
Gln Arg Ile Arg	Arg Ala Phe Val Ala Glu Glu Gly Trp Arg	Leu Val				
	595		600		605	
Val Leu Asp Tyr	Ser Gln Ile Glu Leu Arg Val Leu Ala His	Leu Ser				
	610		615		620	
Gly Asp Glu Asn	Leu Ile Arg Val Phe Gln Glu Gly Gln Asp	Ile His				
	625		630		635	
Thr Gln Thr Ala	Ser Trp Met Phe Gly Val Pro Pro Glu Ala	Val Asp				
	645		650		655	
Ser Leu Met Arg	Arg Ala Ala Lys Thr Ile Asn Phe Gly Val	Leu Tyr				
	660		665		670	
Gly Met Ser Ala	His Arg Leu Ser Gly Glu Leu Ala Ile Pro Tyr	Glu				
	675		680		685	
Glu Ala Val Ala	Phe Ile Glu Arg Tyr Phe Gln Ser Tyr Pro	Lys Val				

690	695	700
Arg Ala Trp Ile Glu Lys Thr Leu Ala Glu Gly Arg Glu Arg Gly Tyr		
705	710	715 720
Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala Ser		
	725	730 735
Arg Val Lys Ser Ile Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met		
	740	745 750
Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val Lys		
	755	760 765
Leu Phe Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu Leu Gln Val		
	770	775 780
His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Gln Ala Glu Glu Val		
	785	790 795 800
Ala Gln Glu Ala Lys Arg Thr Met Glu Glu Val Trp Pro Leu Lys Val		
	805	810 815
Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu Ser Ala Lys		
	820	825 830

Ala

<210> 445
<211> 2496
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 445	
atgaattcgg ggatgctgcc cctctttgag cccaagggcc gggtcctcct ggtggacggc	60
caccacctgg cctaccgcac cttccacgcc ctgaagggcc tcaccaccag ccggggggag	120
ccggtgcagg cgggtctacgg cttcgccaag agcctcctca aggccctcaa ggaggacggg	180
gacgcggtga tcgtggtctt tgacgccaag gccccctcct tccgccacga ggcctacggg	240
gggtacaagg cgggccgggc cccacgcccg gaggactttc cccggcaact cgccctcatc	300
aaggagctgg tggacctcct ggggttcacg cgcctcgagg tcccgggcta cgaggcggac	360
gacgtcctgg ccagcctggc caagaaggcg gaaaaggagg gctacgaggt ccgcctcctc	420
accgccgaca aagaccttta ccagctcctt tccgaccgca tccacgtcct ccaccccgag	480
gggtacctca tcaccccggc ctggcttttg gaaaagtacg gcctgaggcc cgaccagtgg	540
gccgactacc gggccctgac cggggacgag tccgacaacc ttcccggggg caagggcatc	600

ggggagaaga cggcgaggaa gcttctggag gagtggggga gcctggaagc cctcctcaag 660
aacctggacc ggctgaagcc cgccatccgg gagaagatcc tggcccacat ggacgatctg 720
aagctctcct gggacctggc caaggtgcgc accgacctgc ccctggaggt ggacttcgcc 780
aaaaggcggg agcccgaccg ggagaggctt agggccttcc tggagaggct tgagtttggc 840
agcctcctcc acgagttcgg ccttctggaa agccccaagg ccctggagga ggccccctgg 900
ccccgcggg aaggggcctt cgtgggcttt gtgctttccc gcaaggagcc catgtggggc 960
gatcttctgg ccctggccgc cgccaggggc ggccgcgtcc accgggcaac aagcccgggt 1020
gaggccctgg ccgacctcaa ggaggcccg gggttctctg ccaaggacct ggccgttttg 1080
gccctgcggg agggggtggc cctggacccc acggaagacc cctcctggt ggcctacctc 1140
ctggacccgg ccaacaccca ccccgagggg gtggcccggc gctacggggg cgagttcacg 1200
gaggacgcag cggagagggc cctcctctcc gagaggctct tccagaacct ctttaaacgg 1260
ctttccgaga agctcctctg gctctaccag gaggtggagc ggcccctctc ccgggtcttg 1320
gcccacatgg agggccgggg ggtgaggctg gacgtccccc ttctggaggc cctctccttt 1380
gagctggaga aggagatgga gcgcctggag ggggaggtct tccgtttggc cggccacccc 1440
ttcaacctca actcccgcga ccagctggaa agggtcctct ttgacgagct gggcctcacc 1500
ccggtgaagc ggacgaagaa gacgggcaag cgctccaccg ccaggggggc cctggaggcc 1560
ctccgggggg cccaccccat cgtggagctc atcctccagt accgggagct ttccaagctc 1620
aaaagcacct acctggaccc cctgccccgg ctcgccacc cgcgagcggg ccggctccac 1680
accgcttca accagacggc cacggccacg ggaaggcttt ccagctccga ccccaacctg 1740
cagaacatcc ccgtgcgcac ccccttgggg cagcgcaccc gcaaggcctt cgtggccgag 1800
gaggggtggc tccttttggc ggccgactac tcccagattg agctccgggt cctggcccac 1860
ctctcggggg acgagaacct gaagcgggtc ttccgggagg ggaaggacat ccataccgag 1920
accgccgcct ggatgttcgg cttagacccc gctctggtgg atccaaagat gcgccgggcg 1980
gccaagacgg tcaacttcgg cgtcctctac gggatgtccg cccacaggct ctcccaggag 2040
ctcggcatag actacaagga ggcggaggcc ttatttgagc gctacttcca gagcttcccc 2100
aaggtgcggg cctggataga aaggaccctg gaggagggcc ggacgcgggg ctacgtggag 2160
accctgttcg gcaggaggcg ctatgtgcc gacctggcct cccgggtccg ctcggtgcgg 2220
gaggcggcgg agcggatggc cttcaacatg cccgtgcagg gcaccgccgc cgacctgatg 2280

aagatcgcca tgggtcaagct cttccccagg ctaaagcccc tggggggcca cctcctcctc 2340
 caagtggcca acgagctggt cctggaggtg cccgaggacc gggccgagga ggccaaggcc 2400
 ctggtcaagg aggtcatgga gaacgcctac cccctggacg tgcccctcga ggtggaggtg 2460
 ggcgtgggtc gggactggct ggaggcgaag caggat 2496

<210> 446
 <211> 832
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 446

Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu
 1 5 10 15
 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys
 20 25 30
 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe
 35 40 45
 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile
 50 55 60
 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly
 65 70 75 80
 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln
 85 90 95
 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu
 100 105 110
 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys
 115 120 125
 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys
 130 135 140
 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu
 145 150 155 160
 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg
 165 170 175
 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp
 180 185 190
 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu
 195 200 205

Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg
 210 215 220
 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu
 225 230 235 240
 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu
 245 250 255
 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala
 260 265 270
 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu
 275 280 285
 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu
 290 295 300
 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala
 305 310 315 320
 Asp Leu Leu Ala Leu Ala Ala Ala Arg Gly Gly Arg Val His Arg Ala
 325 330 335
 Thr Ser Pro Val Glu Ala Leu Ala Asp Leu Lys Glu Ala Arg Gly Phe
 340 345 350
 Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly Val Ala Leu
 355 360 365
 Asp Pro Thr Asp Asp Pro Leu Leu Val Ala Tyr Leu Leu Asp Pro Ala
 370 375 380
 Asn Thr His Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Phe Thr
 385 390 395 400
 Glu Asp Ala Ala Glu Arg Ala Leu Leu Ser Glu Arg Leu Phe Gln Asn
 405 410 415
 Leu Phe Lys Arg Leu Ser Glu Lys Leu Leu Trp Leu Tyr Gln Glu Val
 420 425 430
 Glu Arg Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Arg Gly Val
 435 440 445
 Arg Leu Asp Val Pro Leu Leu Glu Ala Leu Ser Phe Glu Leu Glu Lys
 450 455 460
 Glu Met Glu Arg Leu Glu Gly Glu Val Phe Arg Leu Ala Gly His Pro
 465 470 475 480
 Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe Asp Glu
 485 490 495
 Leu Gly Leu Thr Pro Val Lys Arg Thr Lys Lys Thr Gly Lys Arg Ser
 500 505 510

Thr Ala Gln Gly Ala Leu Glu Ala Leu Arg Gly Ala His Pro Ile Val
 515 520 525
 Glu Leu Ile Leu Gln Tyr Arg Glu Leu Ser Lys Leu Lys Ser Thr Tyr
 530 535 540
 Leu Asp Pro Leu Pro Arg Leu Val His Pro Arg Thr Gly Arg Leu His
 545 550 555 560
 Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser Ser Ser
 565 570 575
 Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly Gln Arg
 580 585 590
 Ile Arg Lys Ala Phe Val Ala Glu Glu Gly Trp Leu Leu Leu Ala Ala
 595 600 605
 Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser Gly Asp
 610 615 620
 Glu Asn Leu Lys Arg Val Phe Arg Glu Gly Lys Asp Ile His Thr Glu
 625 630 635 640
 Thr Ala Ala Trp Met Phe Gly Leu Asp Pro Ala Leu Val Asp Pro Lys
 645 650 655
 Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr Gly Met
 660 665 670
 Ser Ala His Arg Leu Ser Gln Glu Leu Gly Ile Asp Tyr Lys Glu Ala
 675 680 685
 Glu Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val Arg Ala
 690 695 700
 Trp Ile Glu Arg Thr Leu Glu Glu Gly Arg Thr Arg Gly Tyr Val Glu
 705 710 715 720
 Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Ala Ser Arg Val
 725 730 735
 Arg Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn Met Pro Val
 740 745 750
 Gln Gly Thr Ala Ala Asp Leu Met Lys Ile Ala Met Val Lys Leu Phe
 755 760 765
 Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln Val Ala Asn
 770 775 780
 Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu Ala Lys Ala
 785 790 795 800
 Leu Val Lys Glu Val Met Glu Asn Ala Tyr Pro Leu Asp Val Pro Leu
 805 810 815

Glu Val Glu Val Gly Val Gly Arg Asp Trp Leu Glu Ala Lys Gln Asp
820 825 830

<210> 447
<211> 2508
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 447
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctgggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gccaaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagg acttcccccg gcagctcgcc 300
ctcatcaagg agctgggtga cctcctgggg ttaccgccg tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgga cctctaccaa ctcgctcctc accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctcctc acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggaggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gctcctcca cgagttcggc ctctggagg ccccgcccc cctggaggag 900
gccccctgga ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggcgg agcttaaagc cctggccgcc tgcaggggag gccgcgttta ccgggcggag 1020
gatcccttgg aggccttgcg ggggcttggg gaggtgaggg ggcttttggc caaggacctg 1080
gcggtgctgg ccctgaggga agggattgcc ctggcaccgg gcgacgacct catgctcctc 1140
gcctacctcc tggatccttc caacaccgcc cccgaagggg tagcccggcg ctacgggggg 1200
gagtggaacc aggaggcggg ggaaagggcg ctgctttccg aaaggcttta cgccgccctc 1260
ctgaagcggc ttaaggggga ggagaggctt ctttggcttt acgaggaggt ggaaaagccc 1320


```

ctttcgcggg tcctggccca catggaggcc acgggggtac gggtggatgt ggcctactta 1380
aaggcccttt ccctggaggt ggaggcggag ataaggcgct tcgaggagga ggtccaccgc 1440
ctggccgggc atcctttcaa cctgaactcc cgggaccagc tggaaagggt catctttgac 1500
gagcttgggc ttcccgccat caagaagacg aggaagacgg gcaagcgctc caccagcgcc 1560
gacgttttgg aggccttgcg ggaggctcat cccatcgtgg accgcacctc tcagtaccgg 1620
gagctttcca agtcaaggg aacctacatc gatcccttgc ctgccctggc ccacccaag 1680
acgaaccgcc tccacaccgc tttcaaccag acggccaccg ccacggggag gcttagcagc 1740
tcggatccta atctgcaaaa tatccccgtg cgcaccctt tgggccagcg gatccgccgg 1800
gccttcgtgg ccgaggaggg gtggaggctg gtggttttgg actacagcca gattgagctc 1860
agggtcctgg cgcaccttc cggggacgag aacctaatcc gggctttcca ggagggccag 1920
gacatccaca ccagacggc cagctggatg ttccggcgtg cccagaggc cgtggattcc 1980
ctgatgcgcc gggcggccaa gaccatcaac ttccggcgtc tctacggcat gtccgccac 2040
cggctttcgg gagagctggc catcccctac gaggaggcgg tggccttcac cgagcggtat 2100
ttccagagct accccaaggt gcgggcctgg attgagaaaa ccctggcgga aggacgggaa 2160
cggggctatg tggaaaccct ctttggccgc cggcgctacg tgcccgactt ggcttcccgg 2220
gtgaagagca tccgggagge agcggagcgc atggccttca acatgccggt ccaggggacc 2280
gccgcggatt tgatgaaact ggccatggtg aagctcttcc ccaggcttca ggagctgggg 2340
gccaggatgc ttttgcaggt gcacaacgaa ctggtcctcg aggtcccaa ggagcaagcg 2400
gaggaagtcg cccaggagge caagcggacc atggaggagg tgtggccctt gaaggtgccc 2460
ttggaggtgg aagtgggcat cggggaggac tggctttccg ccaaggcc 2508

```

```

<210> 448
<211> 836
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 448

```

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1           5           10          15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
20           25           30

```

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
 180 185 190
 Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
 195 200 205
 Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
 210 215 220
 Asp Arg Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu
 225 230 235 240
 Glu Asp Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu
 245 250 255
 Pro Leu Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Arg Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ala Pro Ala Pro Leu Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Gly Gly Arg Val
 325 330 335

Tyr Arg Ala Glu Asp Pro Leu Glu Ala Leu Arg Gly Leu Gly Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Leu Arg Glu Gly
355 360 365

Ile Ala Leu Ala Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Ala Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Glu Ala Gly Glu Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

Tyr Ala Ala Leu Leu Lys Arg Leu Lys Gly Glu Glu Arg Leu Leu Trp
420 425 430

Leu Tyr Glu Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Lys Ala Leu Ser
450 455 460

Leu Glu Val Glu Ala Glu Ile Arg Arg Phe Glu Glu Glu Val His Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Ile Phe Asp Glu Leu Gly Leu Pro Ala Ile Lys Lys Thr Arg Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Asp Arg Ile Leu Gln Tyr Arg Glu Leu Ser Lys
530 535 540

Leu Lys Gly Thr Tyr Ile Asp Pro Leu Pro Ala Leu Val His Pro Lys
545 550 555 560

Thr Asn Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Glu Gly Trp
595 600 605

Arg Leu Val Val Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Gln
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655
Ala Val Asp Ser Leu Met Arg Arg Ala Ala Lys Thr Ile Asn Phe Gly
660 665 670
Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gly Glu Leu Ala Ile
675 680 685
Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Tyr
690 695 700
Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Ala Glu Gly Arg Glu
705 710 715 720
Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735
Leu Ala Ser Arg Val Lys Ser Ile Arg Glu Ala Ala Glu Arg Met Ala
740 745 750
Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765
Met Val Lys Leu Phe Pro Arg Leu Gln Glu Leu Gly Ala Arg Met Leu
770 775 780
Leu Gln Val His Asn Glu Leu Val Leu Glu Ala Pro Lys Glu Gln Ala
785 790 795 800
Glu Glu Val Ala Gln Glu Ala Lys Arg Thr Met Glu Glu Val Trp Pro
805 810 815
Leu Lys Val Pro Leu Glu Val Glu Val Gly Ile Gly Glu Asp Trp Leu
820 825 830
Ser Ala Lys Ala
835

<210> 449
<211> 2505
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 449
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcttcgt ggtctttgac gcccaaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg tttaaccgcc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctctgtctccg accgcgtcgc cgtcctccac 480
cccagaggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcggga gcccgaccgg gaggggctta gggccttctt ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctccc ccccgagccc 960
atgtgggchg agcttaaagc cctggccgcc tgcagggcg gccgcgtcca ccgggcaaca 1020
agcccggttg aggcctggc cgacctcaag gagggccggg ggttcctggc caaggacctg 1080
gccgttttg ccctgcggga gggggtggcc ctggaccca cggacgacce cctcctggtg 1140
gcctacctcc tggaccggc caacaccac cccgagggg tggcccgcg ctacgggggc 1200
gagttcacgg aggacgcagc ggagagggcc ctctctccg agaggctctt ccagaacctc 1260
tttaaaccgc tttccgagaa gctcctctgg ctctaccagg aggtggagcg gcccctctcc 1320
cgggtcttgg cccacatgga gggccgggg gtgaggctgg acgtccccct tctggaggcc 1380
ctctcctttg agctggagaa ggagatggag cgcttgagg gggaggctct ccgtttggcc 1440
ggccaccct tcaacctcaa ctcccgcgac cagctggaaa gggctctctt tgacgagctg 1500
ggcctcacc cggatgaagc gacgaagaag acgggcaagc gctccaccgc ccagggggcc 1560
ctggaggccc tccggggggc ccacccatc gtggagctca tcctccagta ccgggagcct 1620
tccaagctca aaagcaccta cctggacccc ctgccccggc tcgtccacc gcggacgggc 1680
cggctccaca cccgcttcaa ccagacggcc acggccacgg gaaggcttct cagctccgac 1740
cccaacctgc agaacatccc cgtgcgcacc cccttggggc agcgcatccg caaggccttc 1800
gtggccgagg aggggtggct ccttttggcg gcggactact ccagattga gctccgggtc 1860
ctggcccacc tctcggggga cgagaacctg aagcgggtct tccgggaggg gaaggacatc 1920
cataccgaga ccgccgcctg gatgttcggc ttagaccccg ctctggtgga tccaaagatg 1980

cgccgggagg ccaagacggt caacttcggc gtcctctacg ggatgtccgc ccacaggctc 2040
 tcccaggagc tcggcataga ctacaaggag gcggaggcct ttattgagcg ctacttccag 2100
 agcttcccca aggtgcgggc ctggatagaa aggaccctgg aggagggccg gacgcggggc 2160
 tacgtggaga ccctgttcgg caggaggcgc tatgtgcccg acctggcctc ccgggtccgc 2220
 tcgggtgcggg aggcggcgga gcggatggcc ttcaacatgc ccgtgcaggg caccgccgcc 2280
 gacctgatga agatcgccat ggtcaagctc ttccccaggc taaagcccct gggggccac 2340
 ctctcctcc aagtggccaa cgagctggtc ctggagggtgc ccgaggaccg ggccgaggag 2400
 gccaaaggccc tgggtcaagga ggtcatggag aacgcctacc ccctggacgt gccctcgag 2460
 gtggagggtg gcgtgggtcg ggactggctg gaggcgaagc aggat 2505

<210> 450
 <211> 835
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 450

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15
 Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30
 Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Phe Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His

145		150		155		160									
Pro	Glu	Gly	His	Leu	Ile	Thr	Pro	Glu	Trp	Leu	Trp	Glu	Lys	Tyr	Gly
				165					170					175	
Leu	Arg	Pro	Glu	Gln	Trp	Val	Asp	Phe	Arg	Ala	Leu	Val	Gly	Asp	Pro
			180					185					190		
Ser	Asp	Asn	Leu	Pro	Gly	Val	Lys	Gly	Ile	Gly	Glu	Lys	Thr	Ala	Leu
		195					200					205			
Lys	Leu	Leu	Lys	Glu	Trp	Gly	Ser	Leu	Glu	Asn	Leu	Leu	Lys	Asn	Leu
	210					215					220				
Asp	Arg	Val	Lys	Pro	Glu	Asn	Val	Arg	Glu	Lys	Ile	Lys	Ala	His	Leu
225					230					235					240
Glu	Asp	Leu	Arg	Leu	Ser	Leu	Glu	Leu	Ser	Arg	Val	Arg	Thr	Asp	Leu
				245					250					255	
Pro	Leu	Glu	Val	Asp	Leu	Ala	Gln	Gly	Arg	Glu	Pro	Asp	Arg	Glu	Gly
			260					265					270		
Leu	Arg	Ala	Phe	Leu	Glu	Arg	Leu	Glu	Phe	Gly	Ser	Leu	Leu	His	Glu
		275					280					285			
Phe	Gly	Leu	Leu	Glu	Ala	Pro	Ala	Pro	Leu	Glu	Glu	Ala	Pro	Trp	Pro
	290					295					300				
Pro	Pro	Glu	Gly	Ala	Phe	Val	Gly	Phe	Val	Leu	Ser	Arg	Pro	Glu	Pro
305					310					315					320
Met	Trp	Ala	Glu	Leu	Lys	Ala	Leu	Ala	Ala	Cys	Arg	Gly	Gly	Arg	Val
				325					330					335	
His	Arg	Ala	Thr	Ser	Pro	Val	Glu	Ala	Leu	Ala	Asp	Leu	Lys	Glu	Ala
			340					345					350		
Arg	Gly	Phe	Leu	Ala	Lys	Asp	Leu	Ala	Val	Leu	Ala	Leu	Arg	Glu	Gly
		355					360					365			
Val	Ala	Leu	Asp	Pro	Thr	Asp	Asp	Pro	Leu	Leu	Val	Ala	Tyr	Leu	Leu
		370				375					380				
Asp	Pro	Ala	Asn	Thr	His	Pro	Glu	Gly	Val	Ala	Arg	Arg	Tyr	Gly	Gly
385					390					395					400
Glu	Phe	Thr	Glu	Asp	Ala	Ala	Glu	Arg	Ala	Leu	Leu	Ser	Glu	Arg	Leu
				405					410					415	
Phe	Gln	Asn	Leu	Phe	Lys	Arg	Leu	Ser	Glu	Lys	Leu	Leu	Trp	Leu	Tyr
			420					425					430		
Gln	Glu	Val	Glu	Arg	Pro	Leu	Ser	Arg	Val	Leu	Ala	His	Met	Glu	Ala
		435					440					445			
Arg	Gly	Val	Arg	Leu	Asp	Val	Pro	Leu	Leu	Glu	Ala	Leu	Ser	Phe	Glu

450	455	460																	
Leu	Glu	Lys	Glu	Met	Glu	Arg	Leu	Glu	Gly	Glu	Val	Phe	Arg	Leu	Ala				
465					470					475					480				
Gly	His	Pro	Phe	Asn	Leu	Asn	Ser	Arg	Asp	Gln	Leu	Glu	Arg	Val	Leu				
				485					490					495					
Phe	Asp	Glu	Leu	Gly	Leu	Thr	Pro	Val	Lys	Arg	Thr	Lys	Lys	Thr	Gly				
			500					505					510						
Lys	Arg	Ser	Thr	Ala	Gln	Gly	Ala	Leu	Glu	Ala	Leu	Arg	Gly	Ala	His				
		515					520					525							
Pro	Ile	Val	Glu	Leu	Ile	Leu	Gln	Tyr	Arg	Glu	Leu	Ser	Lys	Leu	Lys				
	530					535					540								
Ser	Thr	Tyr	Leu	Asp	Pro	Leu	Pro	Arg	Leu	Val	His	Pro	Arg	Thr	Gly				
545					550					555					560				
Arg	Leu	His	Thr	Arg	Phe	Asn	Gln	Thr	Ala	Thr	Ala	Thr	Gly	Arg	Leu				
				565					570					575					
Ser	Ser	Ser	Asp	Pro	Asn	Leu	Gln	Asn	Ile	Pro	Val	Arg	Thr	Pro	Leu				
			580					585					590						
Gly	Gln	Arg	Ile	Arg	Lys	Ala	Phe	Val	Ala	Glu	Glu	Gly	Trp	Leu	Leu				
		595					600					605							
Leu	Ala	Ala	Asp	Tyr	Ser	Gln	Ile	Glu	Leu	Arg	Val	Leu	Ala	His	Leu				
	610					615					620								
Ser	Gly	Asp	Glu	Asn	Leu	Lys	Arg	Val	Phe	Arg	Glu	Gly	Lys	Asp	Ile				
625					630				635					640					
His	Thr	Glu	Thr	Ala	Ala	Trp	Met	Phe	Gly	Leu	Asp	Pro	Ala	Leu	Val				
				645					650					655					
Asp	Pro	Lys	Met	Arg	Arg	Ala	Ala	Lys	Thr	Val	Asn	Phe	Gly	Val	Leu				
			660					665					670						
Tyr	Gly	Met	Ser	Ala	His	Arg	Leu	Ser	Gln	Glu	Leu	Gly	Ile	Asp	Tyr				
		675					680					685							
Lys	Glu	Ala	Glu	Ala	Phe	Ile	Glu	Arg	Tyr	Phe	Gln	Ser	Phe	Pro	Lys				
		690				695					700								
Val	Arg	Ala	Trp	Ile	Glu	Arg	Thr	Leu	Glu	Glu	Gly	Arg	Thr	Arg	Gly				
705					710					715				720					
Tyr	Val	Glu	Thr	Leu	Phe	Gly	Arg	Arg	Arg	Tyr	Val	Pro	Asp	Leu	Ala				
				725					730					735					
Ser	Arg	Val	Arg	Ser	Val	Arg	Glu	Ala	Ala	Glu	Arg	Met	Ala	Phe	Asn				
			740					745					750						
Met	Pro	Val	Gln	Gly	Thr	Ala	Ala	Asp	Leu	Met	Lys	Ile	Ala	Met	Val				

755 760 765
Lys Leu Phe Pro Arg Leu Lys Pro Leu Gly Ala His Leu Leu Leu Gln
770 775 780
Val Ala Asn Glu Leu Val Leu Glu Val Pro Glu Asp Arg Ala Glu Glu
785 790 795 800
Ala Lys Ala Leu Val Lys Glu Val Met Glu Asn Ala Tyr Pro Leu Asp
805 810 815
Val Pro Leu Glu Val Glu Val Gly Val Gly Arg Asp Trp Leu Glu Ala
820 825 830
Lys Gln Asp
835

<210> 451
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 451
cttctctcat ccgccaaaac agcc

24

<210> 452
<211> 2526
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 452
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttccg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg tttaccgcgc tcgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctctgtctccg accgcgtcgc cgtcctccac 480
cccaggggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cggggtcaag 600

ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccagaa aacgtccggg agaagatcaa ggcccacctg 720
gaagacctca ggctctcctt ggagctctcc cgggtgcgca ccgacctccc cctggagggtg 780
gacctcgccc aggggcgggg gcccgaccgg gaggggctta gggccttcct ggagaggctg 840
gagttcggca gcctcctcca cgagttcggc ctcttgagg ccccgcccc cctggaggag 900
gccccctggc ccccgccgga aggggccttc gtgggcttcg tcctctcccg ccccgagccc 960
atgtgggagg agcttaaagc cctggccgcc tgcaggggag gccgcgtgca ccgggcagca 1020
gacctcttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctctgcccc gggacgaccc catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcgagg ctacgggggg 1200
gagtggaagg aggacggcgc ccaccgccc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accggggtag ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgcctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcgggtgctg aggccttacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccctc tgggccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgtcctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgggcaa gacgggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacctt cttcggaaga aggcgctacg tgcccgaact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280

gccgccgacc tcataaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcatgc tcctccaggt cgccaacgag ctctctctgg agggccccca agcgcgggcc 2400
gaggaggtgg cggcttttggc caaggaggcc atggagaagg cctatccccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggcttttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 453
<211> 18
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 453
ctctccacg agttcggc

18

<210> 454
<211> 2514
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 454
atgaattccc tgccctctt tgagcccaag ggccgggtgc ttctggtgga cggccaccac 60
ctggcctacc gtaccttttt tgccctgaag ggcctcacca ccagccgcgg ggagccggtc 120
caggcgggtgt acgggttttg caagagcctt ttgaaggcgc taaggaaga cggggatgtg 180
gtgatcgtgg tgtttgacgc caaggcccc tccttccgcc accagacctt cgaggcctac 240
aaggcggggc gggctccac ccccgaggac tttccccggc agcttgccct tatcaaggag 300
atggtggacc ttttgggctt taccgcctc gaggtgccgg gctttgaagc ggatgacgtc 360
ctggctaccc tggccaagaa ggcggaaaag gaaggctacg aagtgcgcat cctcaccgcg 420
gaccgggacc ttttccagct tctttcggag cgaatctcca tccttcaccc ggagggttac 480
ctgatcacc cggagtggct ttgggagaag tatgggctta agccttccca gtgggtggac 540
taccgggcct tggccgggga cccttccgac aacatccccg gcgtgaaggg catcggggag 600
aagacggcgg ccaagctgat ccgggagtgg ggaagcctgg aaaaccttct taagcacctg 660
gaacaggtga aacctgcctc cgtgcgggag aagatcctta gccacatgga ggacctcaag 720
ctatccctgg agctatcccg ggtgcacacg gacttgctcc ttcagggtga cttcgccccg 780

cgccgggagc cggaccggga ggggcttaag gccttttttg agaggctgga gttcggaagc 840
ctcctccacg agttcggcct gttggaaagc ccggtggcgg cggaggaagc tccctggccg 900
ccccccgagg gagccttcgt ggggtacgtt ctttcccgc cagagcccat gtgggcggag 960
cttaacgcct tggccgcgcg ctggggcggc cgcgtgcacc gggcagcaga ccccttggcg 1020
gggctaaagg acctcaagga ggtccggggc ctcctcgcca aggacctcgc cgtcttggcc 1080
tcgagggagg ggctagacct cgtgcccggg gacgaccca tgctcctcgc ctacctctg 1140
gacccttcga acaccacccc cgaggggggtg gcgcggcgct acggggggga gtggacggag 1200
gacgcgcgcc accgggcctt cctctcggag aggctccatc ggaacctcct taagcgcctc 1260
gagggggagg agaagctcct ttggctctac caccaggtgg aaaagcccct ctcccgggtc 1320
ctggcccata tggaggccac cggggtacgg cgggacgtgg cctaccttca ggccctttcc 1380
ctggagcttg cggaggagat ccgcgcctc gaggaggagg tcttccgctt ggccggccac 1440
cccttcaacc tcaactcccg ggaccagctg gaaagggtgc tctttgacga gcttaggctt 1500
ccgccttga agaagacgaa gaagacaggc aagcgtcca ccagcgccgc ggtgctggag 1560
gccctacggg aggccacccc catcgtggag aagatcctcc agcaccggga gctcaccaag 1620
ctcaagaaca cctacgtgga cccctccca agcctcgtec acccgaggac gggccgcctc 1680
cacaccgct tcaaccagac ggccacggcc acggggaggc ttagtagctc cgaccccaac 1740
ctgcagaaca tccccgtccg caccctcttg ggccagagga tccgccgggc cttcgtggcc 1800
gaggcgggtt gggcgttggt ggccctggac tatagccaga tagagctccg cgtcctcgcc 1860
cacctctccg gggacgaaaa cctgatcagg gtcttccagg aggggaagga catccacacc 1920
cagaccgcaa gctggatgtt cggcgtcccc ccggaggcgg tggacccctt gatgcgccgg 1980
gcggccaaga cgggtgaactt cggcgtcctc tacggcatgt ccgccatag gctctcccag 2040
gagcttgcca tcccctacga ggaggcgggtg gcctttatag agcgctactt ccaaagcttc 2100
cccaagggtgc gggcctggat agaaaagacc ctggaggagg ggaggaagcg gggctacgtg 2160
gaaacctctt tcggaagaag gcgctacgtg cccgacctca acgcccgggt gaagagcgtc 2220
agggaggccg cggagcgcct ggccttcaac atgcccgtcc agggcaccgc cgccgacctc 2280
atgaagctcg ccatggtgaa gctcttcccc cgcctccggg agatgggggc ccgcatgctc 2340
ctccaggctg ccaacgagct cctcctggag gcccccaag cgcgggccga ggaggtggcg 2400
gctttggcca aggaggccat ggagaaggcc tatccctcgc ccgtgccctt ggaggtggag 2460

gtggggatgg gggaggactg gctttccgcc aagggtcacc accaccacca ccac 2514

<210> 455

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 455

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcttcc tcaaggccct gaggaggac 180
gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttcg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccagg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgcc tccgaggtccc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgca cctctaccaa ctctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtatgggct taagccttcc 540
cagtgggtgg actaccgggc cttggccggg gacccttcg acaacatccc cggcgtgaag 600
ggcatcgggg agaagacggc ggccaagctg atccgggagt ggggaagcct ggaaaacctt 660
cttaagcacc tggaacaggt gaaacctgcc tccgtgcggg agaagatcct tagccacatg 720
gaggacctca agctatccct ggagctatcc cgggtgcaca cggacttgct ccttcaggtg 780
gacttcgccc ggcgccggga gccggaccgg gaggggctta aggccttttt ggagaggctg 840
gagttcggaa gcctcctcca cgagttcggc ctgttgga aa gcccggtggc ggcggaggaa 900
gctccctggc cgcctccga gggagccttc gtggggtacg ttctttcccg ccccgagccc 960
atgtgggcgg agcttaacgc cttggccgcc gcctggggcg gccgcgtgca ccgggcagca 1020
gacccttg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttg cctcgaggga ggggctagac ctctgccc gggacgacct catgctcctc 1140
gcctacctcc tggaccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg 1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggctct accacgaggt ggaaaagccc 1320
ctctcccggg tcttgccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380

```

caggcccttt ccctggagct tgcggaggag atccgccgcc tcgaggagga ggtcttccgc 1440
ttggcggggcc accccttcaa cctcaactcc cgggaccagc tggaaaggggt gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccctacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggccgcc tccacaccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggccagag gatccgccgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgctcctcg cccacctctc cggggacgaa aacctgatca ggtcttcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgtcc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgcccaa gacggtgaac ttcggcgtcc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggccttg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaacct cttcggaaga aggcgctacg tgcccgacct caacgcccgg 2220
gtgaagagcg tcaggagggc cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttg aggcccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccctc cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

```

```

<210> 456
<211> 842
<212> PRT
<213> Artificial

```

```

<220>
<223> Synthetic

```

```

<400> 456

```

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20          25          30

```

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45
 Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60
 Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80
 Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95
 Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110
 Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125
 Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140
 Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
 145 150 155 160
 Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175
 Leu Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro
 180 185 190
 Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala
 195 200 205
 Lys Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu
 210 215 220
 Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met
 225 230 235 240
 Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu
 245 250 255
 Leu Leu Gln Val Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly
 260 265 270
 Leu Lys Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu
 275 280 285
 Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro
 290 295 300
 Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro
 305 310 315 320
 Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val
 325 330 335

His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val
340 345 350

Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly
355 360 365

Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu
370 375 380

Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly
385 390 395 400

Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu
405 410 415

His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp
420 425 430

Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met
435 440 445

Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser
450 455 460

Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg
465 470 475 480

Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg
485 490 495

Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys
500 505 510

Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu
515 520 525

Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys
530 535 540

Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg
545 550 555 560

Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly
565 570 575

Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr
580 585 590

Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp
595 600 605

Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala
610 615 620

His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys
625 630 635 640

Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu
645 650 655

Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly
660 665 670

Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile
675 680 685

Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe
690 695 700

Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys
705 710 715 720

Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp
725 730 735

Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala
740 745 750

Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala
755 760 765

Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu
770 775 780

Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala Arg Ala
785 790 795 800

Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro
805 810 815

Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu
820 825 830

Ser Ala Lys Gly His His His His His His
835 840

<210> 457
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 457
ttccaggtgc ttgaggaggt tttccag

27

<210> 458
<211> 27
<212> DNA
<213> Artificial

<220>

<223> Synthetic

<400> 458

ctcctcaagc acctggaaca ggtgaaa

27

<210> 459

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 459

atgaattccg aggcgatgct tccgctcttt gaac :aaag gccgggtcct cctggtggac	60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc	120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac	180
gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttccg ccacgaggcc	240
tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc	300
ctcatcaagg agctggtgga cctcctgggg tttacccgcc tcgagggtccc cggctacgag	360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc	420
atcctcaccg ccgaccgcca cctctaccaa ctcgctctccg accgcgtcgc cgtcctccac	480
cccgaggggc acctcatcac cccggagtgg ctttggggaga agtacggcct caggccggag	540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag	600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc	660
ctcaagcacc tggaacagggt gaaacctgcc tccgtgcggg agaagatcct tagccacatg	720
gaggacctca agctatccct ggagctatcc cgggtgcaca cggacttgct ccttcagggtg	780
gacttcgccc ggcgccggga gccggaccgg gaggggctta aggccttttt ggagaggctg	840
gagttcggaa gcctcctcca cgagttcggc ctggttgaaa gcccggtggc ggcggaggaa	900
gctccttggc cgcctcccca gggagccttc gtggggtagc ttctttcccg ccccgagccc	960
atgtgggcgg agcttaacgc cttggccgcc gcctggggcg gccgcgtgca ccgggcagca	1020
gacccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc	1080
gccgtcttgg cctcgaggga ggggctagac ctcggtgccg gggacgacct catgctcctc	1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcggcg ctacgggggg	1200
gagtggacgg aggacgccgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc	1260

cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcccgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggt gctctttgac 1500
gagcttaggc ttcccgccctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccttacg ggaggccac cccatcgtgg agaagatcct ccagcaccgg 1620
gagctcacca agctcaagaa cacctacgtg gacccccctc caagcctcgt ccacccgagg 1680
acgggcccgc tccacaccgc cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgacccca acctgcagaa catccccgtc cgcacccccct tgggccagag gatccgcccg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctcctc cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca cccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcggccaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacact caacgcccgg 2220
gtgaagagcg tcagggagge cgcggagcgc atggccttca acatgcccggt ccagggcacc 2280
gccgcccacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctccttgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatcccct cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggttttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 460
<211> 842
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 460

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val

1	5	10	15
Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu	20	25	30
Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly	35	40	45
Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala	50	55	60
Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala	65	70	75
Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro	85	90	95
Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr	100	105	110
Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu	115	120	125
Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala	130	135	140
Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His	145	150	155
Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly	165	170	175
Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro	180	185	190
Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu	195	200	205
Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu	210	215	220
Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met	225	230	235
Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu	245	250	255
Leu Leu Gln Val Asp Phe Ala Arg Arg Arg Glu Pro Asp Arg Glu Gly	260	265	270
Leu Lys Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu	275	280	285
Phe Gly Leu Leu Glu Ser Pro Val Ala Ala Glu Glu Ala Pro Trp Pro	290	295	300
Pro Pro Glu Gly Ala Phe Val Gly Tyr Val Leu Ser Arg Pro Glu Pro			

305		310		315		320
Met Trp Ala Glu Leu Asn Ala Leu Ala Ala Ala Trp Gly Gly Arg Val						
	325			330		335
His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val						
	340			345		350
Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly						
	355			360		365
Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu						
	370			375		380
Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly						
	385			390		400
Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu						
	405			410		415
His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu Leu Trp						
	420			425		430
Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met						
	435			440		445
Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser						
	450			455		460
Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val Phe Arg						
	465			470		475
Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg						
	485			490		495
Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr Lys Lys						
	500			505		510
Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu						
	515			520		525
Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys						
	530			535		540
Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg						
	545			550		555
Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly						
	565			570		575
Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr						
	580			585		590
Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp						
	595			600		605
Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala						

<210> 462

<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 462
ctcctcaaga acctggaccg ggtaaag

27

<210> 463
<211> 2532
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 463
atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60
ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120
gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180
gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttcctg ccacgaggcc 240
tacgaggcct acaaggcggg gagggccccc acccccaggg acttcccccg gcagctcgcc 300
ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgaggctcc cggctacgag 360
gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgaggtgcgc 420
atcctcaccg ccgaccgcga cctctaccaa ctgctctccg accgcgtcgc cgtcctccac 480
cccgagggcc acctcatcac cccggagtgg ctttgggaga agtacggcct caggccggag 540
cagtgggtgg acttccgcgc cctcgtgggg gaccctccg acaacctccc cgggggtcaag 600
ggcatcgggg agaagaccgc cctcaagctc ctcaaggagt ggggaagcct ggaaaacctc 660
ctcaagaacc tggaccgggt aaagccggac tcgctccggc gcaagataga ggcgcacctc 720
gaggacctcc acctctcctt agacctggcc cgcctccgca ccgacctccc cctggaggtg 780
gactttaagg ccctgcgccg caggaccccc gacctggagg gcctgagggc ctttttgg 840
gagctggagt tcggaagcct cctccacgag ttccggcctcc tgggagggga gaagccccgg 900
gaggaggccc cctggccccc gcccgagggg gccttcgtgg gcttcctcct ttcccgaag 960
gagcccatgt gggcggagct tctggccctg gggcgggcct cgggcggccg cgtgcaccgg 1020
gcagcagacc ccttggcggg gctaaaggac ctcaaggagg tccggggcct cctcgccaag 1080
gacctcgccg tcttggcctc gagggagggg ctagacctcg tgcccgggga cgaccccatg 1140

ctcctcgctt acctcctgga cccttcgaac accacccccg aggggggtggc gcggcgctac 1200
gggggggagt ggacggagga cgccgcccac cgggcccctcc tctcggagag gctccatcgg 1260
aacctcctta agcgcctcga gggggaggag aagctccttt ggctctacca cgaggaggaa 1320
aagccccctt cccgggtcct ggcccatatg gaggccaccg gggtagggcg ggacgtggcc 1380
taccttcagg ccctttccct ggagcttgcg gaggagatcc gccgcctcga ggaggaggtc 1440
ttcgccttgg cgggcccacc cttcaacctc aactcccggg accagctgga aagggtgctc 1500
tttgacgagc ttaggtctcc cgccttgaag aagacgaaga agacaggcaa gcgctccacc 1560
agcgcgcggg tgctggaggc cctacgggag gccaccccca tcgtggagaa gatcctccag 1620
caccgggagc tcaccaagct caagaacacc tacgtggacc ccctcccaag cctcgtccac 1680
ccgaggacgg gccgcctcca caccgcttc aaccagacgg ccacggccac ggggaggctt 1740
agtagctccg accccaacct gcagaacatc cccgtccgca ccccttgagg ccagaggatc 1800
cgccgggcct tcgtggccga ggccgggttg gcgttggtgg ccctggacta tagccagata 1860
gagctccgcg tctcgcacca cctctccggg gacgaaaacc tgatcagggt cttccaggag 1920
gggaaggaca tccacacca gaccgcaagc tggatgttcg gcgtccccc ggaggccgtg 1980
gacccccctg tgcgcggggc ggccaagacg gtgaacttcg gcgtcctcta cggcatgtcc 2040
gcccataggc tctcccagga gcttgccatc ccctacgagg aggcgggtggc ctttatagag 2100
cgctacttcc aaagcttccc caagggtcgg gcctggatag aaaagaccct ggaggagggg 2160
aggaagcggg gctacgtgga aaccctcttc ggaagaaggc gctacgtgcc cgacctcaac 2220
gcccgggtga agagcgtcag ggaggccgcg gagcgcattg ccttcaacat gcccgctccag 2280
ggcaccgccc ccgaacctcat gaagctcgcc atgggtgaagc tcttcccccg cctccgggag 2340
atggggggccc gcatgctcct ccaggctgcc aacgagctcc tcttgagggc cccccaagcg 2400
cgggcccagg aggtggcggc ttgggccaag gaggccatgg agaaggccta tcccctcgcc 2460
gtgcccctgg aggtggaggc ggggatgggg gaggactggc tttccgcaa gggtcaccac 2520
caccaccacc ac 2532

<210> 464
<211> 844
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<400> 464

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20          25          30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
          35          40          45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
          50          55          60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala
65          70          75          80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
          85          90          95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
          100          105          110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
          115          120          125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
          130          135          140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145          150          155          160

Pro Glu Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
          165          170          175

Leu Arg Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro
          180          185          190

Ser Asp Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu
          195          200          205

Lys Leu Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu
          210          215          220

Asp Arg Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu
225          230          235          240

Glu Asp Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu
          245          250          255

Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu
          260          265          270

Glu Gly Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu
          275          280          285

```

His Glu Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro
 290 295 300
 Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys
 305 310 315 320
 Glu Pro Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly
 325 330 335
 Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys
 340 345 350
 Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg
 355 360 365
 Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr
 370 375 380
 Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr
 385 390 395 400
 Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu
 405 410 415
 Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu
 420 425 430
 Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala
 435 440 445
 His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala
 450 455 460
 Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val
 465 470 475 480
 Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu
 485 490 495
 Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr
 500 505 510
 Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu
 515 520 525
 Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu
 530 535 540
 Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His
 545 550 555 560
 Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala
 565 570 575
 Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val
 580 585 590

Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala
 595 600 605
 Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val
 610 615 620
 Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu
 625 630 635 640
 Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro
 645 650 655
 Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn
 660 665 670
 Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu
 675 680 685
 Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln
 690 695 700
 Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly
 705 710 715 720
 Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val
 725 730 735
 Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg
 740 745 750
 Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys
 755 760 765
 Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg
 770 775 780
 Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala
 785 790 795 800
 Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala
 805 810 815
 Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp
 820 825 830
 Trp Leu Ser Ala Lys Gly His His His His His His
 835 840

<210> 465
 <211> 27
 <212> DNA
 <213> Artificial
 <220>
 <223> Synthetic
 <400> 465

gacgtccttc ggggtgatga ggtggcc

27

<210> 466

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 466

atcaccccga aggacgtcca ggagaag

27

<210> 467

<211> 2532

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 467

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttcg ccacgaggcc 240

tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg ttaccgccg tccagggtccc cggctacgag 360

gcggacgacg ttctcgccac cctggccaag aaggcggaaa aggaggggta cgagggtgcgc 420

atcctcaccg ccgaccgcga cctctaccaa ctggtctccg accgcgtcgc cgtcctccac 480

cccgagggcc acctcatcac cccgaaggac gtccaggaga agtacgggggt gcccccgag 540

cgctgggtgg acttccgcgc cctcacgggg gaccgctcgg acaacatccc cgggggtggcg 600

gggatagggg agaagaccgc ctttcgactc ctgcagagt gggggagcgt ggaaaacctc 660

ctgaagaacc tggaccgggt aaagccggac tcgctccggc gcaagataga ggccgacccc 720

gaggacctcc acctctcctt agacctggcc cgcattccga ccgacctccc cctggagggtg 780

gactttaagg ccttgcgccg caggaccccc gacctggagg gcctgagggc ctttttgag 840

gagctggagt tcggaagcct cctccacgag ttcggcctcc tgggagggga gaagccccgg 900

gaggaggccc cctggcccc cccgaaggg gccttcgtgg gcttctcctt ttcccgaag 960

gagcccatgt gggcggagct tctggccctg gcggcggcct cgggcggccg cgtgcaccgg 1020

gcagcagacc ccttggcggg gctaaaggac ctcaaggagg tccggggcct cctcgccaag 1080
gacctcgccg tcttggcctc gagggagggg ctagacctcg tgcccgggga cgaccccatg 1140
ctctctgcct acctcctgga cccttcgaac accacccccg aggggggtggc gcggcgctac 1200
gggggggagt ggacggagga cgccgcccac cgggccctcc tctcggagag gctccatcgg 1260
aacctcctta agcgcctcga gggggaggag aagctccttt ggctctacca cgaggtggaa 1320
aagccccctc cccgggtcct ggcccatatg gagggcaccc gggtagggcg ggacgtggcc 1380
taccttcagg ccctttccct ggagcttgcg gaggagatcc gccgcctcga ggaggaggtc 1440
ttccgcttgg cgggccacce cttcaacctc aactcccggg accagctgga aagggtgctc 1500
tttgacgagc ttaggcttcc cgccttgaag aagacgaaga agacaggcaa gcgctccacc 1560
agcggcgcg tgctggaggc cctacgggag gccaccccca tcgtggagaa gatcctccag 1620
caccgggagc tcaccaagct caagaacacc tacgtggacc ccctcccaag cctcgtccac 1680
ccgaggacgg gccgcctcca caccgcttc aaccagacgg ccacggccac ggggaggctt 1740
agtagctccg accccaacct gcagaacatc cccgtccgca ccccttgagg ccagaggatc 1800
cgccgggcct tcgtggccga ggcgggttgg gcgttggtgg ccctggacta tagccagata 1860
gagctccgcg tcctcgccca cctctccggg gacgaaaacc tgatcagggt cttccaggag 1920
gggaaggaca tccacacca gaccgcaagc tggatgttcg gcgtccccc ggaggccgtg 1980
gacccccctga tgcgccgggc ggccaagacg gtgaacttcg gcgtcctcta cggcatgtcc 2040
gcccataggc tctcccagga gcttgccatc ccctacgagg aggcgggtggc ctttatagag 2100
cgctacttcc aaagcttccc caaggtgcgg gcctggatag aaaagaccct ggaggagggg 2160
aggaagcggg gctacgtgga aaccctcttc ggaagaaggc gctacgtgcc cgacctcaac 2220
gcccgggtga agagcgtcag ggaggccgcg gagcgcattg cttcaacat gcccgctccag 2280
ggcaccgccc ccgacctcat gaagctcgcc atggtgaagc tcttcccccg cctccgggag 2340
atggggggccc gcatgctcct ccaggtcgcc aacgagctcc tcctggaggc cccccaagcg 2400
cgggccgagg aggtggcggc tttggccaag gaggccatgg agaaggccta tcccctcgcc 2460
gtgcccctgg aggtggaggt ggggatgggg gaggactggc tttccgcca gggtcaccac 2520
caccaccacc ac 2532

<210> 468
<211> 844
<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 468

```

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
1          5          10          15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
          20          25          30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
          35          40          45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
          50          55          60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala
65          70          75          80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
          85          90          95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
          100          105          110

Arg Leu Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu
          115          120          125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
          130          135          140

Asp Arg Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His
145          150          155          160

Pro Glu Gly His Leu Ile Thr Pro Lys Asp Val Gln Glu Lys Tyr Gly
          165          170          175

Val Pro Pro Glu Arg Trp Val Asp Phe Arg Ala Leu Thr Gly Asp Arg
          180          185          190

Ser Asp Asn Ile Pro Gly Val Ala Gly Ile Gly Glu Lys Thr Ala Leu
          195          200          205

Arg Leu Leu Ala Glu Trp Gly Ser Val Glu Asn Leu Leu Lys Asn Leu
          210          215          220

Asp Arg Val Lys Pro Asp Ser Leu Arg Arg Lys Ile Glu Ala His Leu
225          230          235          240

Glu Asp Leu His Leu Ser Leu Asp Leu Ala Arg Ile Arg Thr Asp Leu
          245          250          255

Pro Leu Glu Val Asp Phe Lys Ala Leu Arg Arg Arg Thr Pro Asp Leu
          260          265          270

```

Glu Gly Leu Arg Ala Phe Leu Glu Glu Leu Glu Phe Gly Ser Leu Leu
 275 280 285
 His Glu Phe Gly Leu Leu Gly Gly Glu Lys Pro Arg Glu Glu Ala Pro
 290 295 300
 Trp Pro Pro Pro Glu Gly Ala Phe Val Gly Phe Leu Leu Ser Arg Lys
 305 310 315 320
 Glu Pro Met Trp Ala Glu Leu Leu Ala Leu Ala Ala Ala Ser Gly Gly
 325 330 335
 Arg Val His Arg Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys
 340 345 350
 Glu Val Arg Gly Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg
 355 360 365
 Glu Gly Leu Asp Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr
 370 375 380
 Leu Leu Asp Pro Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr
 385 390 395 400
 Gly Gly Glu Trp Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu
 405 410 415
 Arg Leu His Arg Asn Leu Leu Lys Arg Leu Glu Gly Glu Glu Lys Leu
 420 425 430
 Leu Trp Leu Tyr His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala
 435 440 445
 His Met Glu Ala Thr Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala
 450 455 460
 Leu Ser Leu Glu Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Glu Val
 465 470 475 480
 Phe Arg Leu Ala Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu
 485 490 495
 Glu Arg Val Leu Phe Asp Glu Leu Arg Leu Pro Ala Leu Lys Lys Thr
 500 505 510
 Lys Lys Thr Gly Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu
 515 520 525
 Arg Glu Ala His Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu
 530 535 540
 Thr Lys Leu Lys Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His
 545 550 555 560
 Pro Arg Thr Gly Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala
 565 570 575

Thr Gly Arg Leu Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val
 580 585 590
 Arg Thr Pro Leu Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala
 595 600 605
 Gly Trp Ala Leu Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val
 610 615 620
 Leu Ala His Leu Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu
 625 630 635 640
 Gly Lys Asp Ile His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro
 645 650 655
 Pro Glu Ala Val Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn
 660 665 670
 Phe Gly Val Leu Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu
 675 680 685
 Ala Ile Pro Tyr Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln
 690 695 700
 Ser Phe Pro Lys Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly
 705 710 715 720
 Arg Lys Arg Gly Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val
 725 730 735
 Pro Asp Leu Asn Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg
 740 745 750
 Met Ala Phe Asn Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys
 755 760 765
 Leu Ala Met Val Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg
 770 775 780
 Met Leu Leu Gln Val Ala Asn Glu Leu Leu Leu Glu Ala Pro Gln Ala
 785 790 795 800
 Arg Ala Glu Glu Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala
 805 810 815
 Tyr Pro Leu Ala Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp
 820 825 830
 Trp Leu Ser Ala Lys Gly His His His His His His
 835 840

<210> 469
 <211> 27
 <212> DNA
 <213> Artificial

<220>

<223> Synthetic

<400> 469

ctcgaggcgg gtaaacccca ggaggtc

27

<210> 470

<211> 27

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 470

gggtttaccc gcctcgaggt gcccggc

27

<210> 471

<211> 2526

<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 471

atgaattccg aggcgatgct tccgctcttt gaacccaaag gccgggtcct cctggtggac 60

ggccaccacc tggcctaccg caccttcttc gccctgaagg gcctcaccac gagccggggc 120

gaaccggtgc aggcggtcta cggcttcgcc aagagcctcc tcaaggccct gaaggaggac 180

gggtacaagg ccgtcatcgt ggtctttgac gccgaggccc cctccttcg ccacgaggcc 240

tacgaggcct acaaggcggg gagggccccg acccccgagg acttcccccg gcagctcgcc 300

ctcatcaagg agctggtgga cctcctgggg ttaccgcgc tcgaggtgcc gggctttgaa 360

gcggatgacg tcctggctac cctggccaag aaggcggaaa aggaaggcta cgaagtgcgc 420

atcctcaccg cggaccggga cctttaccag cttctttcgg agcgaatctc catccttcac 480

ccggaggggtt acctgatcac cccggagtgg ctttgggaga agtatgggct taagccttcc 540

cagtgggtgg actacggggc cttggccggg gacccttcg acaacatccc cggcgtgaag 600

ggcatcgggg agaagacggc ggccaagctg atccgggagt ggggaagcct ggaaaacctt 660

cttaagcacc tggaacaggt gaaacctgcc tccgtgcggg agaagatcct tagccacatg 720

gaggacctca agctatccct ggagctatcc cgggtgcaca cggacttgct ccttcagggtg 780

gacttcgccc ggcgccggga gccggaccgg gaggggctta aggccttttt ggagaggctg 840

gagttcggaa gcctcctcca cgagttcggc ctggttgaaa gcccggtggc ggcggaggaa 900

gctccctggc cgccccccga gggagccttc gtgggggtacg ttcttttcccg ccccgagccc 960
atgtgggagg agcttaacgc cttggccgcc gcctggggcg gccgcgtgca ccgggcagca 1020
gaccccttgg cggggctaaa ggacctcaag gaggtccggg gcctcctcgc caaggacctc 1080
gccgtcttgg cctcgaggga ggggctagac ctcgtgcccc gggacgaccc catgctcctc 1140
gcctacctcc tggacccttc gaacaccacc cccgaggggg tggcgcgggc ctacgggggg 1200
gagtggacgg aggacgcgc ccaccgggcc ctctctcgg agaggctcca tcggaacctc 1260
cttaagcgcc tcgaggggga ggagaagctc ctttggtctt accacgaggt ggaaaagccc 1320
ctctcccggg tcctggccca tatggaggcc accgggggtac ggcgggacgt ggcctacctt 1380
caggcccttt ccctggagct tgcggaggag atccgcgcgc tcgaggagga ggtcttccgc 1440
ttggcgggcc accccttcaa cctcaactcc cgggaccagc tggaaagggg gctctttgac 1500
gagcttaggc ttcccgctt gaagaagacg aagaagacag gcaagcgctc caccagcgcc 1560
gcggtgctgg aggccttacg ggaggccac cccatcgtag agaagatcct ccagcaccgg 1620
gagctacca agctcaagaa cacctacgtg gacccctcc caagcctcgt ccacccgagg 1680
acgggcccgc tccacacccg cttcaaccag acggccacgg ccacggggag gcttagtagc 1740
tccgaccca acctgcagaa catccccgtc cgcacccct tgggcccagag gatccgcgg 1800
gccttcgtgg ccgaggcggg ttgggcgttg gtggccctgg actatagcca gatagagctc 1860
cgcgctctcg cccacctctc cggggacgaa aacctgatca gggctctcca ggaggggaag 1920
gacatccaca ccagaccgc aagctggatg ttcggcgctc ccccgagggc cgtggacccc 1980
ctgatgcgcc gggcgggcaa gacggtgaac ttcggcgctc tctacggcat gtccgcccac 2040
aggctctccc aggagcttgc catcccctac gaggaggcgg tggcctttat agagcgctac 2100
ttccaaagct tccccaaggt gcgggcctgg atagaaaaga ccctggagga ggggaggaag 2160
cggggctacg tggaaaccct cttcggaaga aggcgctacg tgcccacact caacgcccgg 2220
gtgaagagcg tcagggaggc cgcggagcgc atggccttca acatgcccgt ccagggcacc 2280
gccgccgacc tcatgaagct cgccatggtg aagctcttcc cccgcctccg ggagatgggg 2340
gcccgcacgc tcctccaggt cgccaacgag ctctcctcgg agggccccca agcgcgggcc 2400
gaggaggtgg cggctttggc caaggaggcc atggagaagg cctatccctc cgccgtgccc 2460
ctggaggtgg aggtggggat gggggaggac tggctttccg ccaagggtca ccaccaccac 2520
caccac 2526

<210> 472
 <211> 842
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic

<400> 472

Met Asn Ser Glu Ala Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val
 1 5 10 15

Leu Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu
 20 25 30

Lys Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly
 35 40 45

Phe Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala
 50 55 60

Val Ile Val Val Phe Asp Ala Glu Ala Pro Ser Phe Arg His Glu Ala
 65 70 75 80

Tyr Glu Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro
 85 90 95

Arg Gln Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr
 100 105 110

Arg Leu Glu Val Pro Gly Phe Glu Ala Asp Asp Val Leu Ala Thr Leu
 115 120 125

Ala Lys Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala
 130 135 140

Asp Arg Asp Leu Tyr Gln Leu Leu Ser Glu Arg Ile Ser Ile Leu His
 145 150 155 160

Pro Glu Gly Tyr Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly
 165 170 175

Leu Lys Pro Ser Gln Trp Val Asp Tyr Arg Ala Leu Ala Gly Asp Pro
 180 185 190

Ser Asp Asn Ile Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Ala
 195 200 205

Lys Leu Ile Arg Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys His Leu
 210 215 220

Glu Gln Val Lys Pro Ala Ser Val Arg Glu Lys Ile Leu Ser His Met
 225 230 235 240

Glu Asp Leu Lys Leu Ser Leu Glu Leu Ser Arg Val His Thr Asp Leu